Renovations to
Service Canada
ESDC / EDSC
Woodstock, NB,
R.072336.001

METAL DOORS AND FRAMES

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Part 1   General

1.1   RELATED REQUIREMENTS

.1   Section 08 71 00 -Door Hardware

.2   Section 08 80 50 - Glazing.

.3   Section 09 91 99 - Interior Painting for minor works

1.2   REFERENCES

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

.1   ASTM A653/A653M-06a, Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.2   Canadian General Standards Board (CGSB)

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

.3   Canadian Standards Association (CSA International)

.1   CSA-G40.20-04/G40.21-04, General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.

.2   CSA W59-03, Welded Steel Construction (Metal Arc Welding).

.4   Canadian Steel Door Manufacturers' Association (CSDMA)

.1   CSDMA, Recommended Specifications for Commercial Steel Doors and Frames, 2000.

.5   National Fire Protection Association (NFPA)

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

.6   South Coast Air Quality Management District (SCAQMD), California State

.1   SCAQMD Rule 1113-04, Architectural Coatings.

.2   SCAQMD Rule 1168-05, Adhesives and Sealants Applications.

.7   Underwriters' Laboratories of Canada (ULC)

.1   CAN4-S104-M80, Standard Method for Fire Tests of Door Assemblies.

.2   CAN4-S105-M85, Standard Specification for Fire Door Frames Meeting the Performance Required by CAN4-S104.

1.3   SYSTEM DESCRIPTION

.1   Design Requirements:

.1   Steel fire rated doors and frames: labelled and listed by an organization accredited by Standards Council of Canada in conformance with CAN4-S104 NFPA 252 for ratings specified or indicated.

.2   Provide fire labelled frames for openings requiring fire protection ratings.
        Test products in conformance with CAN4-S104, ASTM E152 NFPA 252
        and listed by nationally recognized agency having factory inspection
        services.

1.4   ACTION AND INFORMATIONAL SUBMITTALS

.1   Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2   Provide product data: in accordance with Section 01 33 00 - Submittal
        Procedures.

.3   Provide shop drawings: in accordance with Section 01 33 00 - Submittal
        Procedures.

        .1   Submit drawings stamped and signed by professional engineer registered
                or licensed in Province   of New Brunswick Canada.

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

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

.4   Provide samples in accordance with Section 01 33 00 - Submittal Procedures.

1.5   DELIVERY, STORAGE AND HANDLING

.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 recycling in accordance with Section
                01 74 21 - Construction/Demolition Waste Management and Disposal.

Part 2   Products

2.1   MATERIALS

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

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

2.2   PRIMER

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

2.3   PAINT

.1   Field paint steel doors and frames in accordance with Sections 09 91 99 - Interior
        Painting for minor works, . Protect weather strips from paint. Provide final finish
        free of scratches or other blemishes.

      .1   Maximum VOC emission level 50 g/L to GS-11 to SCAQMD Rule 1113.

2.4 ACCESSORIES

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

.2 Fire labels

.3 Heavy duty adjustable jamb seal, see Drawing A6 Door & Hardware Schedules and Section 08 71 10

.4 Glazing: sidelight & viewing panes

.5 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.

.6 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.

2.5 FRAMES FABRICATION GENERAL

.1 Fabricate frames in accordance with CSDMA specifications.

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

.3 Interior frames: 1.6 mm welded   type construction.

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

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

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

.7 Conceal fastenings except where exposed fastenings are indicated.

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

2.6 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.

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2.7   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.

Part 3   Execution

3.1   MANUFACTURER'S INSTRUCTIONS

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

3.2   INSTALLATION GENERAL

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

.2   Install frames to CSDMA Installation Guide.

3.3   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 .

3.4   FINISH REPAIRS

.1   Touch up with primer finishes damaged during installation.

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

3.5   GLAZING

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

END OF SECTION

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Part 1   **General**

1.1   **RELATED REQUIREMENTS**

     .1   Section 08 80 50 - Glazing

1.2   **REFERENCES**

     .1   Architectural Woodwork Manufacturers Association of Canada (AWMAC).

         .1   Quality Standards for Architectural Woodwork 1998.

     .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   CSA O115-M1982(R2001), Hardwood and Decorative Plywood.

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

         .4   CAN/CSA-O132.5-M1992(R1998), Stile and Rail Wood Doors.

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

         .6   CSA Certification Program for Windows and Doors 00.

     .4   Environmental Choice Program (ECP).

         .1   CCD-045-92, Sealants and Caulking Compounds.

         .2   CCD-046-92, Adhesives.

     .5   National Fire Protection Association (NFPA).

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

         .2   NFPA 252-1999, Standard Method of Fire Tests of Door Assemblies.

     .6   Underwriters' Laboratories of Canada (ULC).

         .1   CAN-4S104M-80(R1985), Fire Tests of Door Assemblies.

         .2   CAN4-S105M-85 (R1992), Fire Door Frames Meeting the Performance Required by CAN4-S104.

1.3   **ACTION AND INFORMATIONAL SUBMITTALS**

     .1   Product Data:

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

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  .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 and cutouts for lights, sizes, core construction, construction and cutouts.

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, glazing detail and faces.

 .4 Manufacturer's Instructions:

  .1 Submit manufacturer's installation instructions.

1.5 QUALITY ASSURANCE

 .1 Regulatory Requirements:

  .1 Wood fire rated doors: labelled and listed by an organization accredited by Standards Council of Canada.

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

 .3 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. Crate stained wood doors

  .4 Store doors away from direct sunlight.

1.7   WASTE MANAGEMENT AND DISPOSAL

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

.2   Dispose of corrugated cardboard polystyrene plastic packaging material in appropriate on-site bin for recycling in accordance with site waste management program.

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

.4   Divert unused adhesive material from landfill to official hazardous material collections site approved by Departmental Representative DCC Representative Consultant.

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

Part 2   Products

2.1   FIRE RATED WOOD DOORS

.1   Wood doors: tested in accordance with CAN4-S104 /NFPA 252 to achieve rating as scheduled. (See Drawing A-6)

.1   Face panels: flush

2.2   WOOD FLUSH DOORS

.1   Solid core: to CAN/CSA-O132.2.1.

.1   Construction:

.1   Solid particleboard core: stile and rail frame bonded to particleboard core with wood lock blocks , 5-ply construction.

2.3   GLAZING

.1   Glass: See Section 088050 –Glazing .

.1   Safety glass: to CAN/CGSB-12.1, transparent , 6mm mm thick.

.1   Type 2-tempered.
.2   Class B-float.
.3   Category 11.
.4   Edge treatment.

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

.1   Type 1-polished both sides (transparent)
.2   Wire mesh styles 3-square .

.2   Accessories: Weather strip as noted on Drawing A6 Door Schedule.

2.4   FABRICATION

.1   Vertical edge strips to match face veneer.

.2   Prepare doors for glazing. Provide to match face veneer glazing stops with mitred corners.

.3   Bevel vertical edges of single acting doors 3 mm in 50 mmon lock side and 1.5 mm in 50 mm 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 labelled fire rated doors to NFPA 80.

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

.4   Adjust hardware for correct function.

.5   Install glazing in accordance with Section 08 80 50 - Glazing.

.6   Install stops.

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   Clean glass and glazing materials with approved non-abrasive cleaner.

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

END OF SECTION

Part 1   **General**

1.1   **RELATED REQUIREMENTS**

.1   Section 06 40 00 Architectural Woodwork.

1.2   **REFERENCES**

.1   American National Standards Institute (ANSI) / Builders Hardware Manufacturers Association (BHMA)

.1   ANSI/BHMA A156.9-2003, Cabinet Hardware.
.2   ANSI/BHMA A156.18-2006, Materials and Finishes.

1.3   **ACTION AND INFORMATIONAL 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 cabinet hardware and include product characteristics, performance criteria, physical size, finish and limitations.

.3   Hardware List:

.1   Submit contract hardware list.
.2   Indicate specified hardware, including make, model, material, function, finish and other pertinent information.

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

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

1.4   **CLOSEOUT SUBMITTALS**

.1   Submit in accordance with Section 01 78 00 - Closeout Submittals.

.2   Operation and Maintenance Data: submit operation and maintenance data for cabinet hardware for incorporation into manual.

1.5   **QUALITY ASSURANCE**

.1   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   Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements .

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.2   Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3   Package items of hardware including fastenings, separately or in like groups of hardware, label each package as to item definition and location.

.4   Storage and Handling Requirements:

    .1   Store materials indoors and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

    .2   Store and protect cabinet hardware from nicks, scratches, and blemishes.

    .3   Protect prefinished surfaces with wrapping or strippable coating.

    .4   Replace defective or damaged materials with new.

Part 2   Products

2.1   HARDWARE ITEMS

.1   Use one manufacturer's product for all similar items.

2.2   CABINET HARDWARE

.1   Cabinet hardware: to ANSI/BHMA A156.9, designated by letter B and numeral identifiers listed in Hardware Schedule as listed below.

    .1   Hinges: concealed self-closing all metal   hinge, type 120° opening, finish nickel plated.

    .2   Pulls: back mounted   pull, type D shape, 160mm centre to centre), , finished to chrome.

    .3   Shelf rests and standards: adjustable shelf standards, type recessed, with open shelf rests, finished to nickel plated.

    .4   Drawer slides: side mounted drawer slides, type full extension with over travel, min. 100 lbs/pair capacity.

2.3   FASTENINGS

.1   Supply screws, bolts, expansion shields and other fastening devices required for satisfactory installation and operation of hardware.

.2   Exposed fastening devices to match finish of hardware.

.3   Use fasteners compatible with material through which they pass.

Part 3   Execution

3.1   INSTALLATION

.1   Manufacturer's Instructions: comply with manufacturer's written recommendations, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

.2   Install hardware to standard hardware location dimensions in accordance with manufacturer's recommendations and to project design requirements.

.3   Install key control cabinet and establish key control set-up.

3.2   ADJUSTING

.1   Adjust cabinet hardware for optimum, smooth operating condition.

.2   Lubricate hardware and other moving parts.

.3   Adjust cabinet door hardware to ensure tight fit at contact points with frames.

3.3   CLEANING

.1   Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.

.1   Leave Work area clean at end of each day.

.2   Clean hardware with damp rag and approved non-abrasive cleaner, and polish hardware in accordance with manufacturer's instructions.

.3   Remove protective material from hardware items where present.

.4   Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

.2   Waste Management: separate waste materials for recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal

.1   Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.4   DEMONSTRATION

.1   Maintenance Staff Briefing:

.1   Brief maintenance staff regarding:

.1   Proper care, cleaning, and general maintenance of projects complete hardware.

.2   Description, use, handling, and storage of keys.

.2   Demonstrate operation, operating components, adjustment features, and lubrication requirements.

3.5   PROTECTION

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

.2   Repair damage to adjacent materials caused by cabinet and miscellaneous hardware installation.

3.6   SCHEDULE

.1   Cabinet drawers: .

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   .1 1 set drawer slides B05051 for drawers over 150 mm deep, B05052 for drawers 75 mm to 150 mm deep.

   .2 1 handle pull B02011 626.

 .2 Cabinet swinging doors: .

   .1 1 pair hinges B01262 626.

   .2 1 handle pull B02011 626.

END OF SECTION

Part 1   General

1.1   RELATED REQUIREMENTS

.1   Section 08 14 16 - Flush Wood Doors

.2   Section 08 11 00 – Metal Doors & Frames

1.2   REFERENCES

.1   American National Standards Institute (ANSI) / Builders Hardware Manufacturers
      Association (BHMA)

    .1   ANSI/BHMA A156.1-2000, American National Standard for Butts and
      Hinges.

    .2   ANSI/BHMA A156.2-2003, Bored and Preassembled Locks and Latches.

    .3   ANSI/BHMA A156.4-2000, Door Controls - Closers.

    .4   ANSI/BHMA A156.6-2005, Architectural Door Trim.

    .5   ANSI/BHMA A156.16-2002, Auxiliary Hardware.

    .6   ANSI/BHMA A156.18-2006, Materials and Finishes.

.2   Canadian Steel Door and Frame Manufacturers' Association (CSDMA)

    .1   CSDMA Recommended Dimensional Standards for Commercial Steel
      Doors and Frames - 2009.

1.3   ACTION AND INFORMATIONAL 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 door hardware and include product characteristics,
      performance criteria, physical size, finish and limitations.

.3   Hardware List:

    .1   Submit contract hardware list.

    .2   Indicate specified hardware, including make, model, material, function,
      size, finish and other pertinent information.

.4   Test Reports: certified test reports showing compliance with specific performance
      characteristics and physical properties where such performance is requested.

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

1.4   CLOSEOUT SUBMITTALS

.1   Submit in accordance with Section 01 78 00 - Closeout Submittals.

.2 Operation and Maintenance Data: submit operation and maintenance data for door hardware for incorporation into manual.

1.5 MAINTENANCE MATERIALS SUBMITTALS

.1 Extra Stock Materials:

.1 Supply maintenance materials in accordance with Section 01 78 00 - Closeout Submittals.

.2 Tools:

.1 Supply 2 sets of wrenches for door closers locksets.

1.6 QUALITY ASSURANCE

.1 Regulatory Requirements:

.1 Hardware for doors in fire separations certified by a Canadian Certification Organization accredited by Standards Council of Canada.

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

1.7 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with manufacturer's written instructions.

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Package items of hardware including fastenings, separately or in like groups of hardware, label each package as to item definition and location.

.4 Storage and Handling Requirements:

.1 Store materials indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2 Store and protect door hardware from nicks, scratches, and blemishes.

.3 Protect prefinished surfaces.

.4 Replace defective or damaged materials with new.

.5 Packaging Waste Management: remove and dispose of all packaging materials as specified in in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

Part 2 Products

2.1 HARDWARE ITEMS

.1 Use one manufacturer's products only for similar items.

.2 See Drawing A-6, Hardware Schedule

2.2 DOOR HARDWARE

.1 Locks and latches:

.1 Bored and preassembled locks and latches: to ANSI/BHMA A156.2, series 4000 bored lock, grade 1, designed for function as stated in Hardware Schedule.

.2 Mortise locks and latches: to ANSI/BHMA A156.13, series 1000 mortise lock, grade 1, designed for function as stated in Hardware Schedule.

.3 Lever handles : To match existing Sargent, B lever design.

.4 Roses : round - L OR as existing.

.5 Normal strikes: box type, lip projection not beyond jamb.

.6 Cylinders: key into keying system as directed.

.7 Finished to match existing.

.2 Butts and hinges:

.1 Butts and hinges: to ANSI/BHMA A156.1, listed in drawing A6 Hardware Schedule.

.3 Door Closers and Accessories:

.1 Door controls (closers): to ANSI/BHMA A156.4, indicated in drawing A6 Door & Hardware Schedule, size in accordance with ANSI/BHMA A156.4, table A1, finished to aluminum.

.2 Closer/holder release devices: to ANSI/BHMA A156.15, as listed in drawing A6 hardware schedule, finished to aluminum.

.4 Thresholds: 100 mm wide x full width of door opening, extruded aluminum stainless steel mill finish, serrated surface, fire rated, with linoleum to linoleum application and carpet to Static Dissipative Tile.

.5 Door bottom seal: heavy duty, door seal of extruded aluminum frame and solid closed cell neoprene seal, surface mounted , closed ends, adjustable automatic retract mechanism when door is open, clear anodized finish.

.6 Head and jamb seal:

.1 Extruded aluminum frame and solid closed cell neoprene insert, clear anodized finish.

2.3 FASTENINGS

.1 Use only fasteners provided by manufacturer. Failure to comply may void warranties and applicable licensed labels.

.2 Supply screws, bolts, expansion shields and other fastening devices required for satisfactory installation and operation of hardware.

.3 Exposed fastening devices to match finish of hardware.

.4 Where pull is scheduled on one side of door and push plate on other side, supply fastening devices, and install so pull can be secured through door from reverse side. Install push plate to cover fasteners.

.5 Use fasteners compatible with material through which they pass.

2.4 KEYING

.1 Doors locks to be keyed to existing system . See drawing A5 Key Schedule for keying requirements and confirm requirements with Departmental Representative.

.2 Supply keys in duplicate for every lock in this Contract.

.3 Stamp keying code numbers on keys and cylinders.

.4 Supply construction cores.

.5 Hand over permanent cores and keys to Departmental Representative.

Part 3 Execution

3.1 INSTALLATION

.1 Manufacturer's Instructions: comply with manufacturer's written recommendations, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

.2 Supply metal door and frame manufacturers with complete instructions and templates for preparation of their work to receive hardware.

.3 Supply manufacturers' instructions for proper installation of each hardware component.

.4 Install hardware to standard hardware location dimensions in accordance with CSDFMA Canadian Metric Guide for Steel Doors and Frames (Modular Construction).

.5 Where door stop contacts door pulls, mount stop to strike bottom of pull.

.6 Use only manufacturer's supplied fasteners.

    .1 Use of "quick" type fasteners, unless specifically supplied by manufacturer, is unacceptable.

.7 Remove construction locks when directed by Departmental Representative .

    .1 Install permanent cores and ensure locks operate correctly.

3.2 ADJUSTING

.1 Adjust door hardware, operators, closures and controls for optimum, smooth operating condition, safety and for weather tight closure.

.2 Lubricate hardware, operating equipment and other moving parts.

.3   Adjust door hardware to ensure tight fit at contact points with frames.

3.3   CLEANING

.1   Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.

.1   Leave Work area clean at end of each day.

.2   Clean hardware with damp rag and approved non-abrasive cleaner, and polish hardware in accordance with manufacturer's instructions.

.3   Remove protective material from hardware items where present.

.4   Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

.2   Waste Management: separate waste materials for reuse recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

.1   Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.4   DEMONSTRATION

.1   Keying System Setup and Cabinet:

.1   Set up key control system with file key tags, duplicate key tags, numerical index, alphabetical index and key change index, label shields, control book and key receipt cards.

.2   Place file keys and duplicate keys in key cabinet on their respective hooks.

.3   Lock key cabinet and turn over key to Departmental Representative.

.2   Maintenance Staff Briefing:

.1   Brief maintenance staff regarding:

.1   Proper care, cleaning, and general maintenance of projects complete hardware.

.2   Description, use, handling, and storage of keys.

.3   Use, application and storage of wrenches for door closers and locksets .

.3   Demonstrate operation, operating components, adjustment features, and lubrication requirements.

3.5   PROTECTION

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

.2   Repair damage to adjacent materials caused by door hardware installation.

3.6   SCHEDULE

.1   See Drawing A6 Door & Hardware schedule

END OF SECTION

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Part 1   General

1.1   RELATED REQUIREMENTS

.1   Section 08 11 00 Metal Doors & Frames

.2   Section 08 14 16 Flush Wood Doors.

1.2   REFERENCES

.1   ASTM International

    .1   ASTM C542-05, Standard Specification for Lock-Strip Gaskets.

    .2   ASTM D790-07e1, Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

    .3   for Surface Burning Characteristics of Building Materials.

    .4   ASTM F1233-08, Standard Test Method for Security Glazing Materials and Systems.

.2   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-12.11-M90, Wired Safety Glass. F.

.3   Standard Council of Canada:

    .1   ULC Standard CAN4-S104: Fire Tests of Door Assemblies.

    .2   ULC Standard CAN4-S106: Fire Tests of Window Assemblies.

    .3   CAN/ULC-S101M: Standard Methods of Fire Endurance Tests.

.4   Environmental Choice Program (ECP)

    .1   CCD-045-95(R2005), Sealants and Caulking Compounds.

.5   Glass Association of North American (GANA)

    .1   GANA Glazing Manual - 2008.

    .2   GANA Laminated Glazing Reference Manual - 2009.

.6   South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards

    .1   SCAQMD Rule 1168-A2005, Adhesives and Sealants Applications.

1.3   ADMINISTRATIVE REQUIREMENTS

1.4   ACTION AND INFORMATIONAL 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 glass, sealants, and glazing accessories 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 New Brunswick, Canada.

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

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

.1 Recycled Content:

.1 Submit listing of recycled content products used, including details of required percentages or recycled content materials and products, showing their costs and percentages of post-consumer post-industrial content, and total cost of materials for project.

.2 Low-Emitting Materials:

.1 Submit listing of adhesives and sealants used in building, showing compliance with VOC and chemical component limits or restrictions requirements.

1.5 CLOSEOUT SUBMITTALS

.1 Submit in accordance with Section 01 78 00 - Closeout Submittals.

.2 Operation and Maintenance Data: submit operation and maintenance data for glazing for incorporation into manual.

1.6 QUALITY ASSURANCE

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

1.7 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 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:

.1 Store materials indoors and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2   Store and protect glazing and frames from nicks, scratches, and blemishes.

.3   Replace defective or damaged materials with new.

.4   Packaging Waste Management: remove for reuse and return   pallets, crates, padding, packaging materials as specified in Construction Waste Management Plan Waste Reduction Workplan in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal

Part 2   Products

2.1   MATERIALS

.1   Flat Glass:

     .1   Safety glass: to CAN/CGSB-12.1, transparent , 6mm mm thick.

          .1   Type 2-tempered.

          .2   Class B-float.

          .3   Category 11.

          .4   Edge treatment.

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

          .1   Type 1-polished both sides (transparent)

          .2   Wire mesh styles 3-square .

     .3   Laminated glass: to CAN4-S104, CAN4-S106, CAN/ULC-S101M

          .1   20 min. fire rated

          .2   Category: 1 & 11

          .3   Clear

     .4   Plastic glazing: to CAN/CGSB-12.12, clear colour, 63 mm thick.

          .1   Material: , acrylic, clear .

          .2   Category: 1.

          .3   Light Transmission: minimum 80%.

.2   Plastic Film: Frosted, for visual privacy only on sidelight.

2.2   ACCESSORIES

.1   Setting blocks: Neoprene 80-90 Shore A durometer hardness to ASTM D2240, to suit glazing method, glass light weight and area length of 25 mm for each square meter of glazing minimum 100 mm x width of glazing rabbet space minus 1.5 mm x height.

.2   Spacer shims: Neoprene silicone, 50-60 Shore A durometer hardness to ASTM D2240, 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 D2240; coiled on release paper; 6 x 6 mm 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; 6 mm size.

.4 Glazing splines: resilient polyvinyl chloride extruded shape to suit glazing channel retaining slot, black colour.

.5 Glazing clips: manufacturer's standard type.

.6 Lock-strip gaskets: to ASTM C542.

.1 Stainless steel clips.

Part 3   Execution

3.1   EXAMINATION

.1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for glazing installation in accordance with manufacturer's written instructions.

.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 Proceed with installation only after unacceptable conditions have been remedied.

3.2   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.

3.3   INSTALLATION: INTERIOR - DRY METHOD (TAPE AND TAPE)

.1 Perform work in accordance with GANA Glazing 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 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.

3.4   INSTALLATION: INTERIOR WET/DRY METHOD (TAPE AND SEALANT)

.1   Perform work in accordance with GANA Glazing Manual for glazing installation methods.

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

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

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

.5   Install removable stops, with spacer shims inserted between glazing and applied stops at 600 mm intervals, 6 mm below sight line.

.6   Fill gaps between light and applied stop with sealant to depth equal to bite on glazing, to uniform and level line.

.7   Trim protruding tape edge.

3.5   INSTALLATION: INTERIOR - WET METHOD COMPOUND AND COMPOUND

.1   Perform work in accordance with GANA Glazing Manual for glazing installation methods.

.2   Install glazing resting on setting blocks. Install applied stop and centre light by use of spacer shims at 600 mm centres, 6 mm below sight line.

.3   Locate and secure glazing light using glazers' clips.

.4   Fill gaps between glazing and stops with glazing compound until flush with sight line. Tool surface to straight line.

3.6   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.

3.7   CLEANING

.1   Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.

       .1   Leave Work area clean at end of each day.

          .1   Remove traces of primer, caulking.

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.2 Remove glazing materials from finish surfaces.

.3 Remove labels.

.4 Clean glass using approved non-abrasive cleaner in accordance with manufacturer's instructions.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

.2 Waste Management: separate waste materials for reuse recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal .

.1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.8 PROTECTION

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

.2 After installation, mark each light with an "X" by using removable plastic tape or paste.

.1 Do not mark heat absorbing or reflective glass units.

.3 Repair damage to adjacent materials caused by glazing installation.

3.9 SCHEDULE

.1 See Drawing A-6 Door Schedule.

END OF SECTION