JOINT SEALERS

1 GENERAL

1.1 References

.1 CAN/CGSB-19.21-M87, Sealing and Bedding Compound Acoustical.

.2 CAN/CGSB-19.22-M89, Mildew Resistant, Sealing Compound for Tubs and Tiles.

.3 CAN/CGSB-19.24-M90, Multi-component, Chemical Curing Sealing Compound.

1.2 Delivery, Storage, and Handling

.1 Deliver, handle, store and protect materials in accordance with Division 1 requirements.

.2 Deliver and store materials in original wrappings and containers with manufacturer's seals and labels, intact. Protect from freezing, moisture, water and contact with ground or floor.

1.3 Environmental and Safety Requirements

.1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labeling and provision of material safety data sheets acceptable to Labour Canada.

.2 Conform to manufacturer's recommended temperatures, relative humidity, and substrate moisture content for application and curing of sealants including special conditions governing use.

.3 Ventilate area of work as directed by Engineer by use of approved portable supply and exhaust fans.

1.4 Waste Management and Disposal

.1 Separate waste materials in accordance with City requirements.

.2 Place materials defined as hazardous or toxic waste in designated containers.

.3 Ensure emptied containers are sealed and stored safely for disposal away from children.

.4 Dispose of surplus chemical and finishing materials in accordance with federal, provincial and municipal regulations.

.5 Return solvent and oil soaked rags for contaminant recovery and laundering or for proper disposal.

.6 Use the least toxic sealants, adhesives, sealers, and finishes necessary to comply with the requirements of this section.

.7 Close and seal tightly all partly used sealant containers and store protected in well ventilated fire-safe area at moderate temperature.

.8 Place used hazardous sealant tubes and other containers in areas designated for hazardous materials.

2 PRODUCTS

2.1 Sealant Materials

.1 Sealants and caulking compounds must:

.1 Meet or exceed all applicable governmental and industrial safety and performance standards; and

.2 Be manufactured and transported in such a manner that all steps of the process, including the disposal of waste products arising there from, will meet the requirements of all applicable governmental acts, by laws and regulations including, for facilities located in Canada, the fisheries Act and the Canadian Environmental Protection Act (CEPA).

.2 Sealant and caulking compounds must not be formulated or manufactured with: aromatic solvents, fibrous talc or asbestos, formaldehyde, halogenated solvents, mercury, lead, cadmium, hexavalent chromium, barium or their compounds, except barium sulfate.

.3 Sealant and caulking compounds must not contain a total of volatile organic compounds VOCs) in excess of 5% by weight as calculated from records of the amounts of constituents used to make the product.

.4 Sealant and caulking compounds must be accompanied by detailed instructions for proper application so as to minimize health concerns and maximize performance, and information describing proper disposal methods.

.5 Caulking that emits strong odours, contains toxic chemicals or is not certified as mould resistant shall not be used in air handling units.

.6 When low toxicity caulks are not possible, confine usage to areas which off gas to the exterior, are contained behind air barriers, or are applied several months before occupancy to maximize off-gas time.

.7 In the selection of the products and materials of this section preference will be given to those with the following characteristics: Water based, water soluble, water clean-up, non-flammable, Biodegradable, low Volatile Organic Compound (VOC) content, manufactured without compounds which contribute to ozone depletion in the upper atmosphere, manufactured without compounds which contribute to smog in the lower atmosphere, does not contain methylene chloride, does not contain chlorinated hydrocarbons.

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

.9 Sealants acceptable for use on this project must be listed on CGSB Qualified Products List issued by CGSB Qualification Board for Joint Sealants. Where sealants are qualified with primers use only these primers.

2.2 Sealant Designations Material

.1 Polyurethane sealant:

.1 Non sag one and two part polyurethane sealant to CAN/CGSB-19.24, Type 2, Class B. Colour as selected by Engineer from manufacturers standard range.

.2 Acoustical Sealant.

.1 To CAN/CGSB-19.21.

.2 Silicones One Part.

.1 To CAN/CGSB-19.22 (Mildew resistant).

.3 Preformed Compressible and Non-Compressible back-up materials.

.1 Polyethylene, Urethane, Neoprene or Vinyl Foam.

.1 Extruded closed cell foam backer rod.

.2 Size: oversize 30 to 50 %.

.2 Neoprene or Butyl Rubber.

.1 Round solid rod, Shore A hardness 70.

.3 High Density Foam.

.1 Extruded closed cell polyvinyl chloride (PVC), extruded polyethylene, closed cell, Shore A hardness 20, tensile strength 140 to 200 kPa, extruded polyolefin foam, 32 kg/mn density, or neoprene foam backer, size as recommended by manufacturer.

.4 Bond Breaker Tape.

.1 Polyethylene bond breaker tape which will not bond to sealant.

2.3 Sealant Selection

.1 Perimeters of exterior openings where frames meet exterior facade of building: Sealant type:1
.2 Perimeters of interior frames, as detailed and itemized: Sealant type: 2
.3 Perimeter of bath fixtures (e.g. sinks, tubs, urinals, stools, water closets, basins, vanities):Sealant type: 3

2.4 Joint Cleaner

.1 Non-corrosive and non-staining type, compatible with joint forming materials and sealant recommended by sealant manufacturer.
.2 Primer: as recommended by manufacturer.

3 EXECUTION

3.1 Protection

.1 Protect installed work of other trades from staining or contamination.

3.2 Preparation of Joint Surfaces

.1 Examine joint sizes and conditions to establish correct depth to width relationship for installation of backup materials and sealants.

.2 Clean bonding joint surfaces of harmful matte substances including dust, rust, oil grease, and

other matter which may impair work.

.3 Do not apply sealants to joint surfaces treated with sealer, curing compound, water repellent, or other coatings unless tests have been performed to ensure compatibility of materials. Remove coatings as required.

.4 Ensure joint surfaces are dry and frost free.

.5 Prepare surfaces in accordance with manufacturer's directions.

3.3 Priming and Caulking

.1 Where necessary to prevent staining, mask adjacent surfaces prior to priming and caulking.

.2 Prime sides of joints in accordance with sealant manufacturer's instructions immediately prior to caulking.

3.4 Backup Material

.1 Apply bond breaker tape where required to manufacturer's instructions.

.2 Install joint filler to achieve correct joint depth and shape, with approximately 30 % compression.

3.5 Mixing

.1 Mix materials in strict accordance with sealant manufacturer's instructions.

3.6 Application

.1 Sealant.

.1 Apply sealant in accordance with manufacturer's written instructions.

.2 Mask edges of joint where irregular surface or sensitive joint border exists to provide neat joint.

.3 Apply sealant in continuous beads.

.4 Apply sealant using gun with proper size nozzle.

.5 Use sufficient pressure to fill voids and joints solid.

.6 Form surface of sealant with full bead, smooth, free from ridges, wrinkles, sags, air pockets, embedded impurities.

.7 Tool exposed surfaces before skinning begins to give slightly concave shape.

.8 Remove excess compound promptly as work progresses and upon completion.

.2 Curing.

.1 Cure sealants in accordance with sealant manufacturer's instructions.

.2 Do not cover up sealants until proper curing has taken place.

.3 Cleanup.

.1 Clean adjacent surfaces immediately and leave work neat and clean.

.2 Remove excess and droppings, using recommended cleaners as work progresses.

.3 Remove masking tape after initial set of sealant.

DIVISION 8
DOORS AND WINDOWS

TABLE OF CONTENTS
DIVISION 8 – DOORS AND WINDOWS

STEEL DOORS and FRAMES

1 GENERAL

1.1 Related Sections

.1 Section 07900 - Joint Sealers
.2 Section 08710 - Door Hardware
.3 Section 09911 - Interior Painting
.4 Section 09912 - Exterior painting

1.2 References

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

.1 ASTM A 653/A 653M-02a, 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 CAN/CGSB-1.181-99, Ready-Mixed Organic Zinc-Rich Coating.

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

.3 Canadian Standards Association (CSA).

.1 CSA G40.21-98, Structural Quality Steels.

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

.4 Canadian Steel Door and Frame Manufacturers' Association, (CSDFMA).

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

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

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 Drawing

.1 Submit shop drawings in accordance with Section 01300 - Submittals.

.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, reinforcing and finishes.

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

2 PRODUCTS

2.1 Materials

.1 Hot dipped galvanized steel sheet: to ASTM A 653/A 653M-02a, minimum base steel thickness in accordance with CSDFMA Table 1 - Thickness for Component Parts

.2 Reinforcement channel: to CSA G40.21-98, Type 44W, coating designation to ASTM A 653/A 653M-02a.

2.2 Door Core Materials

.1 Honeycomb construction:

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

2.3 Adhesives

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

2.4 Primers

.1 Touch-up prime CAN/CGSB-1.181-99.

2.5 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 Metallic paste filler: to manufacturer's standard.

.5 Fire labels: metal riveted.

.6 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.

.2 Design exterior glazing stops to be tamperproof.

2.6 Frames Fabrication General

.1 Fabricate frames in accordance with CSDFMA specifications.

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

.3 Exterior frames: 1.6 mm welded, thermally broken type construction.

.4 Interior frames: 1.6 mm knocked-down type construction.

.5 Blank, reinforce, drill and tap frames for mortised, templated hardware, and electronic 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.

2.7 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.

2.8 Frames: Welded Type

.1 Welding in accordance with CSA W59-1989 Type (R2001).

.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 sane 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.

2.9 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 CSDFMA Recommended Installation Guide for Steel Doors and Frames.

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

2.10 Door Fabrication general

.1 Doors: swing type, flush, with provision for glass openings as indicated.

.2 Exterior doors: honeycomb construction.

.3 Fabricate doors with longitudinal edges welded. Seams: grind welded joints to a flat plane, fill with metallic paste filler and sand to a uniform smooth finish.

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

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

.8 Manufacturer's nameplates on doors are not permitted.

2.11 Doors: Honeycomb Construction

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

2.12 Thermally Broken Doors and Frames

.1 Fabricate thermally broken doors by using insulated core and separating exterior parts from interior parts with continuous interlocking thermal break.

.2 Thermal break: rigid polyvinylchloride extrusion conforming to CGSB 41-GP-19Ma.

.3 Fabricate thermally broken frames separating exterior parts form interior parts with continuous interlocking thermal break.

.4 Apply insulation.

3 EXECUTION

3.1 Installation General

.1 Install doors and frames to CSDFMA 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 Hardware

.1 Install doors and hardware in accordance with hardware templates and manufacturer's instructions and Section 08710 - Door Hardware.

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

.1 Hinge side: 1.0 mm.

.2 Latch side and head: 1.5 mm.

.3 Adjust operable parts for correct function.

3.4 Finish Repairs

.1 Touch up with primer finishes damaged during installation.

END OF SECTION

SECTIONAL METAL OVERHEAD DOORS

1. GENERAL

1.1 Related Sections

.1 Section 05500 - Metal Fabrications: Steel (plate, angle and channel) door frames.
.2 Section 09911 - Interior Painting.

1.2 References

.1 The Aluminum Association Inc. (AA)
  .1 Aluminum Association Designation System for Aluminum Finishes- 1997.

.2 American Society for Testing and Materials (ASTM)
  .1 ASTM A 366M-97, Specification for Steel, Carbon, Cold-Rolled Sheet, Commercial Quality.
  .2 ASTM D 523-99, Test Method for Specular Gloss.
  .3 ASTM D 822-96, 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 CAN/CGSB-1.105-M91, Quick-Drying Primer.
  .2 CGSB 1.121-93, Vinyl Pretreatment Coating for Metals (Vinyl Wash Primer).
  .3 CGSB 1.181-99, Coating, Zinc-Rich, Organic, Ready Mixed.
  .4 Canadian Standards Association (CSA)
    .1 CSA G164-M92, Hot Dip Galvanizing of Irregularly Shaped Articles.
  .5 Environmental Choice Program (ECP)
    .1 ECP-40-91, Building Materials: Thermal Insulation.
    .2 ECP-67-95, Recycled Water-Borne Surface Coatings
    .3 ECP-76-98, Surface Coatings.

1.3 Design Requirements

.1 Design exterior door assembly to withstand wind load of 1 kPa with a maximum horizontal deflection of 1/240of opening width.
.2 Design door panel assemblies with thermal insulation factor 3.5 RSI.

1.4 Shop Drawings Procedures

.1 Submit shop drawings in accordance with Section 01300 - Submittals.
.2 Indicate sizes, service rating, types, materials, operating mechanisms, glazing locations and details, hardware and accessories and required clearances.

1.5 Closeout Submittals

.1 Provide operation and maintenance data for overhead door hardware for incorporation into manual specified in Section 01730 - Operations and Maintenance Manuals.

1.6 Waste Management and Disposal

.1 Separate and recycle waste materials in accordance with City requirements.
.2 Place materials defined as hazardous or toxic waste in designated containers.
.3 Ensure emptied containers are sealed and stored safely for disposal away from children.
.4 Remove from site and dispose of all packaging materials at City landfill in accordance with City requirements.

1.7 Unused Materials

.1 Dispose of used metal cut-offs to landfill in accordance with City requirements.

2. PRODUCTS

2.1 Materials

.1 Steel sheet: commercial quality to ASTM A 366M, exposed (E), with 10000 series finish.
.2 Primer: to CAN/CGSB-1.105 for steel surfaces.
.3 Insulation: to meet design requirements.
.4 Glazing: As per Door Schedule.
.5 Cable: multi-strand galvanized steel aircraft cable.

2.2 Doors

.1 Fabricate 50 mm thick insulated flush panel doors of interlocking steel sections as indicated.
.2 Fabricate panel frames in a continuous box frame with vertical stiffeners at 600 mm centres.
.3 Install glazing for door sections vision panels. Sizes and number of lights vision panels as indicated.
.4 Assemble components by means of spot or arc welding or coated rivet system or adhesive and self tapping screws to manufacturer's recommendations.
.5 Apply shop coat of primer after fabrication of door Fabricate doors from pre painted steel stock.

2.3 Commercial Duty Hardware

.1 Track: standard vertical lift low headroom hardware with 50 mm size minimum 1.9mm core thickness galvanized steel track.
.2 Track Supports: 2.3 mm core thickness continuous galvanized steel angle track supports.
.3 Spring counter balance: heavy duty oil tempered torsion spring with manufacturer's standard brackets.
    .1 Drum: 100 mm diameter die cast aluminum.
    .2 Shaft: 25 mm diameter galvanized steel.
    .4 Top roller carrier: galvanized steel minimum 2.28 mm thick adjustable.
    .5 Rollers: full floating, grease packed, hardened steel, ball bearing minimum 50 mm diameter, stamped tire.
    .6 Roller brackets: adjustable, galvanized steel, minimum 2.5 mm thick.

.7 Hinges: commercial duty minimum 1.9 mm thick as recommended by manufacturer.
.8 Cable: minimum 3 mm diameter galvanized steel aircraft cable.

2.4 Accessories

.1 Overhead horizontal track and operator supports: galvanized steel, type and size to suit installation.
.2 Track guards: 5 mm thick formed sheet 1500 mm high track guards.
.3 Pusher springs.
.4 Handles
  .1 Handles: handle operated from inside.
.5 Two horizontal sliding lock bolts on interior.
.6 Weather stripping
  .1 Sills: double contact full width extruded neoprene weather-strip.
  .2 Jambs and head: extruded aluminum and arctic grade vinyl weather-strip to manufacturer's standard.
.7 Finish ferrous hardware items with minimum zinc coating of 300 g/m² to CSA G164.

2.5 Prefinished Sheet Steel

.1 Prefinished steel with factory applied polyvinylidene fluoride.
  .1 Class F1S.
  .2 Colour selected by Engineer from manufacturer's standard range.
  .3 Specular gloss: 30 units +/- in accordance with ASTM D 523.
  .4 Coating thickness: not less than 22micrometres.
  .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 5000hours.

2.6 Operators

.1 Equip doors for operation by:
  .1 Hand, two handles on inside face of door.
  .2 Chain hoist with galvanized steel chain.

.2 Cable fail safe device.
  .1 Able to stop door immediately if cable breaks on door free fall. Braking capacity 500 kg.

3. EXECUTION

3.1 Installation

.1 Install doors and hardware in accordance with manufacturer's instructions.
.2 Rigidly support rail and operator and secure to supporting structure.
.3 Touch-up steel doors with primer where galvanized finish damaged during fabrication.

.4 Lubricate and adjust door operating components to ensure smooth opening and closing of doors.

.5 Adjust weather-stripping to form a weather tight seal.

END OF SECTION

DOOR HARDWARE

1. GENERAL

1.1 Related Work

.1 Section 01010-Summary if Work
.2 Section 01300-Submittals
.3 Section 01700-Contract Closeout
.4 Section 01730-Operations and Maintenance Manuals
.4 Section 08110-Steel Doors and Frames

1.2 Reference Standards

.1 Standard hardware location dimensions in accordance with Canadian Metric Guide for Steel Doors and Frames prepared by Canadian Steel Door and Frame Manufactures' Association.
.2 CAN/CGSB-69.17-M86 A156.2-1983, Bored and Preassembled Locks and Latches.
.3 CAN/CGSB-69.18-M90 A156.1-1981, Butts and Hinges.
.4 CAN/CGSB-69.19-93 A156.3-1984, Exit Devices.
.5 CAN/CGSB-69.20-M90 A156.4-1986, Door Controls (Closers).
.6 CAN/CGSB-69.24-M90 A156.8-1982, Door Controls - Overhead Holders.
.7 CAN/CGSB-69.29-93 A156.13-1980, Mortise Locks and Latches.
.8 CAN/CGSB-69.31-M89 A156.15-1981, Closer/Holder Release Device.
.9 CAN/CGSB-69.33-M90 A156.17-1987, Self-closing Hinges and Pivots.

1.3 Hardware List

.1 Submit contract hardware list in accordance with Section 01300 - Submittals.
.2 Indicate specified hardware, including make, model, material, function, size, finish and other pertinent information.

1.4 Closeout Submittals

.1 Provide operation and maintenance data for door closers, locksets, door holders and fire exit hardware for incorporation into manual specified in Section 01730 - Operations and Maintenance manuals.
.2 Brief maintenance staff regarding proper care, cleaning, and general maintenance.

1.5 Extra Materials

.1 Provide maintenance materials in accordance with Section 01700 - Contract Closeout.
.2 Supply two sets of wrenches for door closers locksets and fire exit hardware.

1.6 Delivery and Storage

.1 Store finishing hardware in locked, clean and dry area.
.2 Package each item of hardware including fastenings, separately or in like groups of hardware, label each package as to item definition and location.

2. PRODUCTS

2.1 Hardware Items

.1 Only door locksets and latch sets listed on CGSB Qualified Products List are acceptable for use on this project.

.2 Use one manufacturer's products only for all similar items.

2.2 Door Hardware

.1 Locks and latches:

- .1 Bored and preassembled locks and latches: to CAN/CGSB-69.17-M86, series 2000 preassembled lock, grade 1, designed for function and keyed as per schedule to be provided by Engineer.
- .2 Mortise locks and latches: to CAN/CGSB-69.29-93, series 1000 mortise lock, grade 1, designed for function and keyed as per schedule to be provided by Engineer.
- .3 Knobs: plain design.
- .4 Roses Escutcheons: round.
- .5 Normal strikes: box type, lip projection not beyond jamb.
- .6 Cylinders: key into keying system already in place in existing building as directed.

.2 Butts and hinges:

- .1 Butts and hinges: to CAN/CGSB-69.18-M90, designated by letter A and numeral identifiers, followed by size and finish, listed in Hardware Schedule.
- .2 Self-closing hinges and pivots: to CAN/CGSB-69.33-M90, designated by letter K and numeral identifiers listed in Hardware Schedule, with suffix letter F indicating listed for used on fire doors.

.3 Exit devices: to CAN/CGSB-69.19-93, conventional

.4 Door Closers and Accessories:

- .1 Door controls (closers): to CAN/CGSB-69.20-M90, designated by letter C and numeral identifiers listed in Hardware Schedule, size in accordance with CAN/CGSB-69.20-M90, table A1.
- .2 Door controls - overhead holders: to CAN/CGSB-69.24-M90, designated by letter C and numeral identifiers listed in Hardware Schedule.
- .3 Closer/holder release devices: to CAN/CGSB-69.31-M89, designated by letter C and numeral identifiers listed in hardware schedule.

.5 Door bottom seal: heavy duty, door seal of extruded aluminum frame and solid closed cell neoprene weather seal, surface mounted with drip cap, closed ends, adjustable, clear anodized finish.

.6 Thresholds: 152 mm wide x full width of door opening, extruded aluminum mill finish, plain surface, with thermal break of rigid PVC, with lip and vinyl door seal insert.

.7 Weather-stripping:

- .1 Head and jamb seal:
  - .1 Extruded aluminum frame and solid closed cell neoprene insert, clear

anodized finish.
.2 Adhesive backed neoprene material.
.2 Door bottom seal:
.1 Extruded aluminum frame and closed cell neoprene sweep, clear anodized finish.

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

2.4 Keying

.1 Schedule to be provided by Engineer
.2 Provide keys in duplicate at Substantial Completion.

3. EXECUTION

3.1 Installation Instructions

.1 Furnish metal door and frame manufacturers with complete instructions and templates for preparation of their work to receive hardware.
.2 Furnish manufacturers' instructions for proper installation of each hardware component.
.3 Install hardware to standard hardware location dimensions in accordance with Canadian Metric Guide for Steel Doors and Frames (Modular Construction) prepared by Canadian Steel Door and Frame Manufacturers' Association.
.4 Where door stop contacts door pulls, mount stop to strike bottom of pull.
.5 Remove construction cores when directed by Engineer. Install permanent cores provided by Engineer and check operation of all locks.

3.2 Schedule

.1 Doors 100, 101, 102, 201
1 ea. continuous hinge CLA
1 ea. panic set 626
1 ea. cylinder 626
1 ea. o/h stop 630
1 ea. closure device 689
1 ea. kick plate 32D
1 ea. w/strip AL
1 ea. door sweep AL

1 ea. threshold AL

.2 Door 103, 105, 200, 204, 205, 207
3 hinges 32D
1 ea. panic set 626
1 ea. cylinder 626
1 ea. kick plate 32D
1 ea. o/h stop 630
1 ea. closure device 689

.3 Door 103A
Hardware by Door Manufacturer

.4 Door 104, 202, 206
3 ea. hinges 32D
1 ea. cylinder 626
1 ea. kick plate 26D
1 ea. closure device 689
1 ea. o/h stop 630
1 ea. wall stop 26D 1 ea. coat hook 26D

.5 Door 203
3 ea. hinges 32D
1 ea. cylinder 626
1 ea. kick plate 26D
1 ea. wall stop 26D
1 ea. coat hook 26D

END OF SECTION

DIVISION 9
FINISHES

TABLE OF CONTENTS
DIVISION 9 - FINISHES

NON LOAD BEARING WALL FRAMING

1. GENERAL

1.1 Related Sections

.1 Section 09250 - Gypsum Board

1.2 References

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

.2 ASTM C 645-99, Standard Specification for Nonstructural Steel Framing Members.

.3 ASTM C 754-98a, Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.

.4 Canadian General Standards Board (CGSB).

.5 CAN/CGSB-1.40-97, Primer, Structural Steel, Oil Alkyd Type.

.6 CAN/CGSB-19.21-M87, Sealing and Bedding Compound Acoustical.

.7 Environmental Choice Program (ECP)

.1 ECP-12-89, Solvent-borne Paints.

.2 ECP-07-89, Water-borne Surface Coatings.

.3 ECP-50-93, Gypsum Wallboard.

1.3 Waste Management and Disposal

.1 Separate steel scraps from landfill in accordance with City requirements.

.2 Divert unused primer materials from landfill in accordance with City requirements.

2. PRODUCTS

2.1 Materials

.1 Non-load bearing channel stud framing: to ASTM C 645, 91 and 152 mm stud size, roll formed from 0.91mm thickness hot dipped galvanized steel sheet, for screw attachment of gypsum board. Knock-out service holes at 460 mm centres.

.2 Floor and ceiling tracks: to ASTM C 645, in widths to suit stud sizes, 32 mm flange height.

.3 Metal channel stiffener: 1.4 mm thick cold rolled steel, coated with rust inhibitive coating.

.4 Acoustical sealant: to CAN/CGSB-19.21

.5 Insulating strip: rubberized, moisture resistant 3 mm thick foam strip, 12 mm wide, with self sticking adhesive on one face, lengths as required.

3. EXECUTION

3.1 Erection

.1 Align partition tracks at floor and ceiling and secure at 600 mm o.c. maximum.

.2 Install damp proof course under stud shoe tracks of partitions on slabs on grade.

.3 Place studs vertically at 406 mm oc and not more than 50 mm from abutting walls, and at each side of openings and corners. Position studs in tracks at floor and ceiling. Cross brace steel studs as required to provide rigid installation to manufacturer's instructions.

.4 Erect metal studding to tolerance of 1:1000.

.5 Attach studs to bottom ceiling track using screws.

.6 Co-ordinate simultaneous erection of studs with installation of service lines. When erecting studs ensure web openings are aligned.

.7 Co-ordinate erection of studs with installation of door/window frames and special supports or anchorage for work specified in other Sections.

.8 Provide two studs extending from floor to ceiling at each side of openings wider than stud centres specified. Secure studs together, 50mm apart using column clips or other approved means of fastening placed alongside frame anchor clips.

.9 Install heavy gauge single jamb studs at openings.

.10 Erect track at head of door/window openings and sills of sidelight/window openings to accommodate intermediate studs. Secure track to studs at each end, in accordance with manufacturer's instructions. Install intermediate studs above and below openings in same manner and spacing as wall studs.

.11 Frame openings and around built-in equipment, cabinets, access panels, on four sides. Extend framing into reveals. Check clearances with equipment suppliers.

.12 Provide 40 mm stud or furring channel secured between studs for attachment of fixtures behind lavatory basins, toilet and bathroom accessories, and other fixtures including grab bars and towel rails, attached to steel stud partitions.

.13 Install steel studs or furring channel between studs for attaching electrical and other boxes.

.14 Extend partitions to ceiling height except where noted otherwise on drawings.

.15 Maintain clearance under beams and structural slabs to avoid transmission of structural loads to studs. Use 50mm leg ceiling tracks.

.16 Install continuous insulating strips to isolate studs from uninsulated surfaces.

.17 Install two continuous beads of acoustical sealant under studs and tracks around perimeter of sound control part.

END OF SECTION