

PART 1 - GENERAL

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| <u>1.1 RELATED SECTIONS</u> | .1 | Section 08 34 63 - DETENTION SECURITY METAL DOORS. |
| | .2 | Section 09 91 23 - INTERIOR PAINTING. |
| <u>1.2 REFERENCE STANDARDS</u> | .1 | Standard hardware location dimensions in accordance with drawings. |
| <u>1.3 HARDWARE LIST</u> | .1 | Submit contract hardware list and manufacturer's technical product data, including a photocopy of each hardware item, for all door hardware of this section. Submit in accordance with Section 01 33 00. |
| | .2 | Indicate specified hardware, including make, model, material, function, size, finish and other pertinent information. |
| | .3 | Hardware lists must include the hardware manufacturer's name and the model number for all hardware items. |
| | .4 | Hardware list must indicate all required mounting plates, brackets and special fasteners. Give manufacturer's names and catalogue numbers. |
| <u>1.4 MAINTENANCE DATA</u> | .1 | Provide operation and maintenance data for all door hardware. Include in O&M Manual specified in Section 01 78 00. |
| <u>1.5 DELIVERY AND STORAGE</u> | .1 | Package each item of hardware separately. Label packages as to item definition and door location. |
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PART 2 - PRODUCTS

- 2.1 HARDWARE ITEMS
- .1 Locks used on this project exist on the cell doors in the area of construction. They are to be removed and reused on the new doors.
 - .2 Manufacture hardware items to ANSI/BHMA Standards specified for each specific item.
 - .3 When specified standard does not exist, the hardware item shall be specifically made to suit the specific function. It shall be detention type quality and have been proven in use.
 - .4 Use one manufacturer's products only for all similar items.
- 2.2 QUALITY CONTROL
- .1 Provide site inspection service of installed hardware by Detention Hardware Supplier as specified in clauses 3.1.6 below.
- 2.3 DOOR HARDWARE
- .1 Door hinges (Door D127):
 - .1 Cast stainless steel, detention type hinges, complete with shear resistant stud, torx security screws.
 - .1 3 Hinges capable of supporting 136 Kg.
 - .2 Size: to match existing 114mm x 114mm.
 - .3 Pin size: 8 mm.
 - .4 Conform to NAAMM standard HMMA 863-96.
 - .5 Standard of acceptance:
'Folger-Adam' FA 4-1/2FM-ICS or "Hager IHTAB850 or "Stanley" IHTCB1995R
 - .2 Food Pass Hinge (Door D01, D02, DA2, D127):
 - .1 Drop forged mild steel complete with concealed, tamper proof, heavy-duty thrust bearings. To be screwed in place. Having built-in stop to hold food pass door in horizontal position. 2 hinges per door.
 - .1 Size : 76mm high x 101.6mm wide x 9.5mm thick.
 - .2 Pin Size 9.5 mm diameter.
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- 2.3 DOOR HARDWARE .2 (Cont'd)
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- (Cont'd)
- .1 (Cont'd)
- .3 Drilled and counter sunk for 'Torx' screws.
- .4 Standard of acceptance:
'Folger-Adam' No.3FP or "R.R. Brink locking system" #3FP or "Hager companies" 992.
- .3 Food Pass Lock (D01, D02, DA2, D127):
- .1 Mechanical operation with Paracentric cylinder. Keying provided by the manufacturer, key code to match existing door lockset, supply 3 keys per door(brass prison keys).
- .2 Automatic snap-locking.
- .3 Malleable iron case with 6mm thick cold drawn steel cover.
- .4 Corrosion resistant working parts.
- .5 Having 5 spring-temper heavy duty brass tumblers, activated by heavy phosphor bronze springs. Precision fit to locking fence.
- .6 Investment cast stainless steel solid latchbolt - 25mm x 11mm thick having 11mm bolt throw.
- .7 One piece bronze alloy investment cast key cylinder with paracentric keyway. Keyed one side.
- .8 Supplied with four flat head 'TORX' security screws - 1/4-20 X 6mm diameter.
- .9 Supplied with keeper/pull.
- .10 Standard of acceptance: 'Folger-Adam' FA 17 Latch or "R.R. Brink locking system" 7017
- .4 Food Pass:
- .1 As detailed on drawings.
- .2 Similar to 'Folger-Adam' 262 food pass.
- .5 Door Pull:
- .1 Remove and reuse existing door pull (DA2, D127).
- .2 New door pull (D01, D02)
- .1 Stainless Steel, finished to 32D
- .2 Supplied with two flat head 'TORX' security screws - 1/4-20 X 6mm diameter
- .3 Standard of acceptance:
'Folger-Adam' No.2.
- .6 Door-Position Indication Switches:
- .1 Remove and reuse existing.
- .7 Door Hanger with rollers and Door glides:
- .1 Remove and reuse existing.
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- 2.4 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.
 - .4 Use countersunk stainless steel with 'Torx' heads.

PART 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. Verify with Institution.
 - .4 Quality Control: use only qualified door hardware installers having knowledge and past experience in prison hardware installation.
 - .1 Upon request by Departmental Representative, submit written documentation on qualifications and past work experience.
 - .5 Coordinate the installation of the finish door hardware components.
 - .1 Ensure correct lockset function.
 - .2 During installation, check for proper alignment of hardware.
 - .3 Provide all labour as required to assist in the installation and correct functioning of the door hardware and the door access control system.
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| 3.1 INSTALLATION
INSTRUCTIONS
(Cont'd) | .6 | Site Inspection:
.1 Prior to substantial completion of
project, obtain and pay for the services of a
Detention Door Hardware Technician,
representing the Hardware Supplier, to perform
a site inspection of installed hardware.
.2 Technician must be a qualified Detention
type Hardware Consultant.
.3 Inspection to include verification that:
.1 All hardware at each door, have
been installed correctly and operate
efficiently;
.2 Correct lockset function has been
installed at each door.
.4 Make hardware adjustments while Hardware
Representative is present on site.
.5 Technician shall submit written report
to Departmental Representative attesting to
above requirements and note deficiencies
found, adjustments and rectifications made.
.6 Note that Departmental Representative
will not issue certificate of Substantial
Performance of the Work until site inspection
and report has been received. |
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PART 1 - GENERAL

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| <u>1.1 Related Sections</u> | .1 | Section 01 33 00 - Submittal Procedures. |
| | .2 | Section 01 74 22 - Construction/Demolition Waste Management And Disposal. |
| | .3 | Section 08 34 60 - Detention Door Hardware: Supply of finish hardware, including mounting heights. |
| | .4 | Section 08 80 50 - Glazing: Glazing. |
| | .5 | Section 09 91 23 - Interior Painting. |
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| <u>1.2 References</u> | .1 | American Society for Testing and Materials (ASTM International)
.1 ASTM A 653/A653M-06, Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
.2 F1450-05-Test Methods for Hollow Metal Swinging Door Assemblies for Detention Facilities |
| | .2 | Canadian General Standards Board (CGSB)
.1 CAN/CGSB-1.181-99, Ready-Mixed Organic Zinc-Rich Coating. |
| | .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, Recommended Selection and Usage Guide for Detention Steel Doors and Frames - level 3, 1990. |
| | .5 | Hollow Metal Manufacturers Association: HMMA 863-04 - Detention Security Hollow Metal Doors and Frames - level 3. |
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| <u>1.2 References</u>
(Cont'd) | .6 | NAAMM DEMA - Detention Equipment:
111900-09-Guide Specification for Basic
Detention Equipment Requirements, 11, Dec.
2009. |
| | .7 | NAAMM HMMA - National Association of
Architectural Metal Manufacturers :
.1 863-04-Guide Specifications for
Detention Security Hollow Metal Doors &
Frames, 8d, January 2005. |
| <u>1.3 Design Requirements</u> | .1 | Design interior frame assembly to accommodate
to expansion and contraction when subjected to
minimum and maximum surface temperature of 0°
C to 35° C. |
| <u>1.4 Shop Drawings</u> | .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
reinforcing, fire rating, finishes. |
| | .4 | Include schedule identifying each unit, with
door marks and numbers relating to numbering
on drawings and door schedule. |
| <u>1.5 Requirements</u> | .1 | Doors shall meet the performance criteria and
test values obtained for Grade 3 door assembly
as specified in HMMA 863 for the following
tests:
.1 Door Assembly Impact Test to ASTM F1450
.2 Door Static Load Test to ASTM F1450
.3 Door Rack Test to ASTM F1450
.4 Door Edge Crush Test to ASTM F1450
.5 Manufacturer shall be able to provide
written documentation sustaining test
information conforming to ASTM F 1450-97
Standard test methods for Hollow Metal |
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1.5 Requirements (Cont'd)	.1	(Cont'd)
	.5	(Cont'd)
		Detention Swinging Door Assemblies for Detention Facilities.
	.6	Door thickness: 50mm
1.6 Quality Assurance	.1	Manufacturer shall provide evidence of: .1 Having personnel and plant equipment capable of fabricating hollow metal door and frame assembly of type specified and to construction methods and details indicated, including compliance with CSC approved shop drawing details. .2 Have a written quality control system program in place at Plant. .3 Using Plant fabrication methods and product quality which meets standards set by the Hollow Metal Manufacturers Association, HMMA, a Division of the National Association of Architectural Metal. .2 Site Installers shall be factory trained and approved by cell door manufacturer, having worked minimum 5 years in detention type cell door installations and capable of meeting door and frame site installation clearances and tolerances specified. .3 Minimum of 5 years in manufacturing detention doors and documents showing success in manufacturing detention doors in at least 2 penitentiary.
1.7 Delivery,Storage, and Protection	.1	Section 01 61 00: Transport, handle, store, and protect products.
	.2	Comply with HMMA 840-99.
	.3	Remove doors from wrappings or coverings upon receipt on site and inspect for damage.
	.4	Store in vertical position, spaced with blocking to permit air circulation between components.

1.7 Delivery,Storage.5 and Protection <u>(Cont'd)</u>	.5	Store materials out of water and covered to protect from damage.
	.6	Clean and touch up scratches or disfigurement caused by shipping or handling with zinc-rich primer.

1.8 Waste Management and <u>Disposal</u>	.1	Separate and recycle waste materials in accordance with Section 01 74 22 - Construction/Demolition Waste Management And Disposal.
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1.9 <u>Inspection</u>	.1	Departmental representative reserve's the right to conduct a visual inspection of the framing of the core of the doors before the outside skins are installed.
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PART 2 - PRODUCTS

2.1 <u>Materials</u>	.1	Hot dipped galvanized steel sheet: to ASTM A 653M, ZF001, 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 A 653M, ZF75.
	.3	Steel sheet: cold rolled, commercial quality to ASTM A 366/A 366M, Class 1, wiped zinc coated surfaces.
	.4	Door dimensions: as indicated. Verify dimensions of new doors being installed into existing frames.

2.2 <u>Door Core Materials</u>	.1	Construction: .1 Fill all spaces between individual components and welded reinforcing with rock wool batt insulation-packed tightly.
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- 2.3 Adhesives .1 Lock-seam doors: fire resistant, resin reinforced polychloroprene, high viscosity, sealant/adhesive.
- 2.4 Primer .1 Touch-up prime CAN/CGSB-1.181.
- 2.5 Paint .1 Paint steel doors and frames in accordance with Sections 09 91 23 - Interior Painting. Provide final finish shall be free of scratches or other blemishes.
- 2.6 Accessories .1 Door silencers: single stud rubber/neoprene type, 3 per door.
- .2 Top and bottom caps: steel. Detention (DD) doors to have flush construction top and bottom.
- .3 Bent steel glazing stops 10 gauge (3mm), minimum 25mm, accurately fitted, butted at corners and fastened to frame sections with button head Torx security screws.
- .4 Metallic paste filler: to manufacturer's standard.
- .5 Make provision for glazing as indicated and provide necessary glazing stops.
- .1 All glazing stops to be tamper proof.
- .2 Locate tamper proof bolts on non-secure side of glazing.
- .3 Provide removable stainless steel glazing beads for use with glazing tapes and compounds and secured with countersunk stainless steel TORX bolts.
- 2.7 Detention Door (DD) Fabrication .1 Conforming to NAAMM 863-98, Level 3, pivot swing type, flush, with provision for glass as indicated.
- .2 Form each face of doors from 12 gauge 2.0mm zinc coated sheet steel. Weld or spot weld faces to edge channels and stiffeners to meet the requirements of stated above.
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- 2.7 Detention Door .3
(DD) Fabrication____
(Cont'd)
- Fabricate 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 Provide and install plate steel reinforcing
welded within doors at the locations of
security hinges and security locks, strikes,
at door closers and position switch and any
other hardware as indicated in annex "A"
schedule.
 - .5 Extend strike reinforcement 300mm above and
below the point of latch penetration.
 - .6 Blank, reinforce, drill doors and tap for
mortised, templated hardware and electronic
hardware.
 - .7 Factory prepare holes 12.7 mm diameter and
larger except mounting and through-bolt holes,
on site, at time of hardware installation.
 - .8 Reinforce doors where required, for surface
mounted hardware. Provide flush steel top caps
to doors.
 - .9 Prime paint doors after fabrication. Provide
factory applied touch-up primer at areas where
zinc coating has been removed during
fabrication.
 - .10 Provide and install 6mm plate steel
reinforcing welded within doors at the
locations of security hinges and security
locks or strikes, as detailed on drawings.
 - .11 Manufacturer's nameplates on doors are not
permitted.
 - .12 Bevel hinge and lock edges of doors 3mm in
50mm.
 - .13 Supply doors complete with openings for
glazing to sizes shown on drawings. Glazing
stops to be 10 gauge 2.0mm sheet steel,
Security Torx screw fixed.
 - .14 Construct any matching panels required in
same manner as doors.
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PART 3 - EXECUTION

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| <u>3.1 Installation
General</u> | .1 | Install doors to CSDFMA Installation Guide. |
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| <u>3.2 Door
Installation</u> | .1 | Install doors and hardware in accordance with hardware templates and manufacturer's instructions and Section 08 34 60 - Detention Door Hardware. |
| | .2 | Provide even margins between doors and jambs and doors and finished floor as follows.
.1 Hinge side: 2.0 mm.
.2 Latchside and head: 2.0 mm.
.3 As indicated on drawings. |
| | .3 | Adjust operable parts for correct function. |
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| <u>3.3 Finish Repairs</u> | .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. |
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| <u>3.4 Glazing</u> | .1 | Install glazing for doors and frames in accordance with Section 08 80 50 - Glazing. |
| | .2 | Ensure removable glass stops are located on non-secure side of openings. |

PART 1 - GENERAL

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| <u>1.1 RELATED
SECTIONS</u> | .1 | Section 01 33 00 - SUBMITTAL PROCEDURES. |
| | .2 | Section 01 78 00 - CLOSEOUT SUBMITTALS. |
| | .3 | Section 08 34 63 - DETENTION SECURITY METAL
DOORS |
| <u>1.2 REFERENCES</u> | .1 | Canadian General Standards Board (CGSB).
.1 CAN/CGSB-12.1-M90, Tempered or Laminated
Safety Glass.
.2 CAN/CGSB-12.3-M91, Flat, Clear Float
Glass. |
| | .2 | Environmental Choice Program (ECP).
.1 CCD-045-95, Sealants and Caulking. |
| | .3 | Flat Glass Manufacturers Association (FGMA).
.1 FGMA Glazing Manual - 1997. |
| <u>1.3 SUBMITTALS</u> | .1 | Product Data:
.1 Submit manufacturer's printed product
literature, specifications and data sheet in
accordance with Section 01 33 00 - Submittal
Procedures. |
| | .2 | Shop Drawings:
.1 Submit shop drawings in accordance with
Section 01 33 00 - Submittal Procedures. |
| | .3 | Manufacturer's Instructions:
.1 Submit manufacturer's installation
instructions. |
| <u>1.4 QUALITY
ASSURANCE</u> | .1 | Test Reports: certified test reports showing
compliance with specified performance
characteristics and physical properties. |
| | .2 | Pre-installation Meetings: conduct
pre-installation meeting to verify project
requirements, manufacturer's installation
instructions and manufacturer's warranty
requirements. |
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PART 2 - PRODUCTS

- 2.1 MATERIALS: FLAT GLASS .1 Minimum tree (3) ply material composition, clear, extruded polycarbonate of the following construction, overall thickness 12mm:
- 3mm polycarbonate sheet with abrasion resistant surface
 - Polyurethane interlayer
 - 6mm Polycarbonate sheet
 - Polyurethane interlayer
 - 3mm polycarbonate sheet with abrasion resistant surface
- Standard of acceptance: "LEXGARD MPC500 Laminate" or "MAKROLON HYGARD CG500" or approved equal.
- 2.2 ACCESSORIES .1 Setting blocks: Neoprene, 80-90 Shore A durometer hardness to ASTM D 2240, 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 to suit glazing method, glass light weight and area.
- .2 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; 12 x 3 mm size; black colour.

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.
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| <u>3.2 EXAMINATION</u>
(Cont'd) | .2 | Verify that surfaces of glazing channels or recesses are clean, free of obstructions, and ready to receive glazing. |
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| <u>3.3 PREPARATION</u> | .1 | Clean contact surfaces and wipe dry. |
| | .2 | Seal porous glazing channels or recesses with substrate compatible primer or sealer. |
| | .3 | Prime surfaces scheduled to receive sealant. |
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| <u>3.4 INSTALLATION:
DOORS</u> | .1 | Cut glazing tape to length; install on glazing light. Seal corners by butting tape and sealing junctions with sealant. |
| | .2 | Place setting blocks at 1/4 points, with edge block maximum 150 mm from corners. |
| | .3 | Rest glazing on setting blocks and push against tape for full contact at perimeter of light or unit. |
| | .4 | Cut glazing tape to length and set against permanent stops, projecting 1.6 mm above sight line. |
| | .5 | Place setting blocks at 1/4 points, with edge block maximum 150 mm from corners. |
| | .6 | Place glazing tape on free perimeter of glazing in same manner described. |
| | .7 | Install removable stop without displacement of tape. Exert pressure on tape for full continuous contact. Install stops in place using security screws. Screws must engage a minimum of 6mm thick solid steel reinforcement. |
| | .8 | Knife trim protruding tape. |
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| <u>3.5 CLEANING</u> | .1 | Perform cleaning after installation to remove construction and accumulated environmental dirt. |
| | .2 | Remove traces of primer, caulking. |
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3.5 CLEANING
(Cont'd)

- .3 Remove glazing materials from finish surfaces.
- .4 Remove labels after work is complete.
- .5 Clean glass using approved non-abrasive cleaner in accordance with manufacture's instructions.
- .6 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.