

PART 1 - GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 61 00 - Common Product Requirements.
- .3 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .4 Section 01 78 00 - Closeout Submittals.
- .5 Section 08 11 00- Metal Doors & Frames.
- .6 Division 26 - Electrical wiring for magnetic strikes, electric releases, electric locks.

1.2 REFERENCES

- .1 American National Standards Institute (ANSI) / Builders Hardware Manufacturers Association (BHMA)
 - .1 ANSI/BHMA A156.1, American National Standard for Butts and Hinges.
 - .2 ANSI/BHMA A156.2, Bored and Preassembled Locks and Latches.
 - .3 ANSI/BHMA A156.3, Exit Devices.
 - .4 ANSI/BHMA A156.4, Door Controls - Closers.
 - .5 ANSI/BHMA A156.5, Auxiliary Locks and Associated Products.
 - .6 ANSI/BHMA A156.6, Architectural Door Trim.
 - .7 ANSI/BHMA A156.8, Door Controls - Overhead Stops and Holders.
 - .8 ANSI/BHMA A156.12, Interconnected Locks and Latches.
 - .9 ANSI/BHMA A156.13, Mortise Locks and Latches Series 1000.

- .10 ANSI/BHMA A156.14, Sliding and Folding Door Hardware.
- .11 ANSI/BHMA A156.15, Release Devices - Closer Holder, Electromagnetic and Electromechanical.
- .12 ANSI/BHMA A156.16, Auxiliary Hardware.
- .13 ANSI/BHMA A156.17, Self-closing Hinges and Pivots.
- .14 ANSI/BHMA A156.18, Materials and Finishes.
- .15 ANSI/BHMA A156.19, Power Assist and Low Energy Power - Operated Doors.

- .2 Canadian Steel Door and Frame Manufacturers' Association (CSDFMA)
 - .1 CSDFMA Recommended Dimensional Standards for Commercial Steel Doors and Frames.

1.3 SUBMITTALS

- .1 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and data sheet.
- .2 Samples:
 - .1 Identify each sample by label indicating applicable specification paragraph number, brand name and number, finish and hardware package number.
 - .2 After approval samples will be returned for incorporation in the Work.
- .3 Hardware List:
 - .1 Submit contract hardware list.
 - .2 Indicate specified hardware, including make, model, material, function, size, finish and other pertinent information.

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| | .4 | Manufacturer's Instructions:
.1 Submit manufacturer's
installation instructions. |
| | .5 | Closeout Submittals
.1 Provide operation and
maintenance data for door closers,
locksets, door holders electrified
hardware and fire exit hardware for
incorporation into manual specified
in Section 01 78 00 - Closeout
Submittals. |
| <u>1.4 MAINTENANCE
MATERIALS</u> | .1 | Supply two sets of wrenches for door
closers, locksets and fire exit
hardware. |
| <u>1.5 WARRANTY</u> | .1 | Provide a written manufacturer's
warranty for work of this Section
for failure due to defective
materials for ten (10) years, dated
from substantial completion
certificate. |
| | .2 | Provide a written Contractor's
warranty for work of this Section
for failure due to defective
installation workmanship for one (1)
year, dated from submittal
completion certificate. |
| <u>1.6 QUALITY ASSURANCE</u> | .1 | Regulatory Requirements:
.1 Hardware for doors in fire
separations and exit doors certified
by a Canadian Certification
Organization accredited by Standards
Council of Canada. |
| | .2 | Only products meeting ANSI/BHMA
standards are acceptable. Items that
are equal in design, function and
quality will be accepted upon |

approval of the Departmental Representative.

- .3 Only recognized contract hardware distributors will be considered for the work of this section. The distributor shall have on staff a qualified Architectural Hardware Consultant recognized by the Door and Hardware Institute or a person with equivalent qualifications to assist installers and direct detailing, processing and delivery of material, and certify installation acceptance.

1.7 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver, store, handle and protect materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Store finishing hardware in locked, clean and dry area.
- .3 Package each item of hardware including fastenings, separately or in like groups of hardware, label each package as to item definition and location.

1.8 MAINTENANCE SERVICE

- .1 Provide maintenance service for one year during warranty period to maintain all barrier free entrance automatic operators as follows:
 - .1 Qualified service personal approved by manufacturer of operators.
 - .2 Site inspection every three months will all necessary adjustment made during this visit. Separate warranty service calls, if required, will only qualify as an inspection if time of call is close to the three month intervals.

.3 Make detailed reports of each visit and copy to Owner and Engineer.

.4 Cost of this service will be included as part of this Section and is not covered by any allowance amount.

PART 2 - PRODUCTS

2.1 HARDWARE ITEMS

- .1 Only door locksets and latches listed on ANSI/BHMA Standards list are acceptable for use on this project.
- .2 Use one manufacturer's products only for similar items.

2.2 DOOR HARDWARE

- .1 Locks and latches:
 - .1 Bored and preassembled locks and latches: to ANSI/BHMA A156.2, 4000 bored lock, grade 1, designed for function and keyed as stated in Hardware Schedule.
 - .2 Mortise locks and latches: to ANSI/BHMA A156.3, series 1000 mortise lock, designed for function and keyed as stated in Hardware Schedule.
 - .3 Knobs Lever handles: plain design.
 - .4 Roses: round.
 - .5 Normal strikes: box type, lip projection not beyond jamb.
 - .6 Cylinders: key into keying system as directed.
 - .7 All corresponding cylinders to be removable.
 - .8 Finished to BHMA 626.

- .2 Butts and hinges:
 - .1 Butts and hinges: to ANSI/BHMA A156.1, designated by letter A and numeral identifiers, followed by size and finish, listed in Hardware Schedule.
- .3 Door Closers and Accessories:
 - .1 Door controls (closers): to ANSI/BHMA A156.4, designated by letter C and numeral identifiers listed in Hardware Schedule.
- .4 Auxiliary locks and associated products: to ANSI/BHMA A156.5, designated by letter E and numeral identifiers listed in Hardware Schedule.
 - .1 Key into keying system as noted.
- .5 Architectural door trim: to ANSI/BHMA A156.6, designated by letter J and numeral identifiers listed in Hardware Schedule.
 - .1 Door protection plates: 1.27 mm thick stainless steel, finished to BMHA 630.
 - .2 Push plates: 1.27 mm thick stainless steel finished to BMHA 630.
 - .3 Push/Pull units: type stainless steel finished to BMHA 630.
- .6 Auxiliary hardware: to ANSI/BHMA A156.16, designated by letter L and numeral identifiers listed in Hardware Schedule.
 - .1 Combination stop and holder, floor mounted: finished to BMHA 626.
 - .2 Surface bolt lever extension flush bolt: finish to BMHA 626.

- .9 Door bottom seal: heavy duty, door seal of extruded aluminum frame and hollow closed cell neoprene weather seal, surface mounted with drip cap closed ends, clear anodized finish.
- .10 Thresholds: to ANSI/BHMA A156.21 extruded aluminum mill finish, serrated surface, with lip and vinyl door seal insert.
- .11 Weatherstripping:
 - .1 Head and jamb seal:
 - .1 Extruded aluminum frame and solid closed cell neoprene insert, clear anodized finish.
- .12 Astragal: overlapping, extruded aluminum frame with vinyl insert, finished to match doors.

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 Provide keys in triplicate for every lock in this Contract.
- .2 Provide construction cores.
- .3 Provide all permanent cores and keys to Departmental Representative.

2.5 FINISHES

- .1 Following finishes are indicated in hardware groups.

BHMA	CAN MATERIAL	FINISH
626	C26D Brass/Bronze	Satin Chrome
628	C28 Aluminum	Satin Alum, Anodized
630	C32D Stainless Steel	Satin Stainless Steel
652	C26D Steel	Plated Satin Chrome
689	Al All	Painted Aluminum
	Alum Aluminum	Mill Finish
	TMDF (to match door and frame finish).	

2.6 ABBREVIATIONS

ALD	Aluminum Door and Frame
ATMS STMS	Arm/strike To Template with Machine Screws
ASB	Arm Complete with Sex Bolts
BC	Back Check
C to C, C/L	Centerline to Centerline
Cyl	Cylinder (of a lock)
CMK	Construction Master Key
Deg.	Degree (of opening)
DEL	Delayed Action
FBB or BB	Ball bearing hinge

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.
- .2 Furnish metal door and frame manufacturers with complete instructions and templates for preparation of their work to receive hardware.
- .3 Furnish manufacturers' instructions for proper installation of each hardware component.

3.2 INSTALLATION

- .1 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.
- .2 Where door stop contacts door pulls, mount stop to strike bottom of pull.
- .3 Use of "quick" type fasteners, unless specifically supplied by manufacturer, is unacceptable.
- .4 Remove construction when directed by Departmental Representative; install permanent cores and check operation of locks.
- .5 Wiring Diagrams:
 - .1 Provide any special information, voltage requirements and wiring diagrams to other trades requiring such information.

3.3 EXAMINATION

- .1 Visit site prior to start of installation of hardware.
- .2 Visit will include examination of openings, site conditions and materials for conditions that prevent proper application of finish hardware.
- .3 Installation will imply conditions for installation acceptable hardware contractor to accept responsibility.

3.4 FIELD QUALITY CONTROL

- .1 Hardware contractor to have a qualified AHC representative from the manufacturer/supplier on site at Substantial Completion Inspection and at commissioning of the finished hardware. Cost of the visits to be included in contract.

3.5 ADJUSTING

- .1 Adjust door hardware, 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 provide tight fit at contact points with frames.
- .4 Where hardware is found defective, repair or replace or correct as desired by inspection reports.

3.6 CLEANING

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

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

3.7 PROTECTION

- .1 All hardware shall be protected against damage from paint, plaster or other defacing materials. Whenever possible manufacturers protective covering when applied, shall not be removed until final project cleaning takes place. Material not protected by manufacture shall be covered or removed from door during painting or any other adjustments that can cause damage to hardware.

3.8 HARDWARE GROUPS

- .1 Provide hardware as specified in the previous articles in sets according to the following groups: see structural drawing A1.

3.9 DEMONSTRATION

- .1 Designated Staff Briefing:
 - .1 Brief designated staff regarding:
 - .1 Proper care, cleaning, and general maintenance of projects complete hardware.
 - .2 Use, application and storage of wrenches for door closers and locksets.

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

3.10 COMMISSIONING

- .1 Site inspection or visit at Substantial Completion and training follow up and inspection at commissioning as directed by Departmental Representative.
- .2 Provide 10 month warranty service.