

STANDARD SPECIFICATION  
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**DIVISION 8**

**SECTION 8D FINISH HARDWARE**

8D.01 GENERAL: Comply with all of the Contract Documents.

8D.02 SCOPE OF WORK: Refer to "Division Scope of Work"

**8D.03 GENERAL REQUIREMENTS**

- A. This contractor shall assume full responsibility for examination of the drawings, field conditions and for the preparation of his own hardware schedule. He shall be responsible for the accuracy of the quantities, sizes, finish, and proper hardware to be furnished whether specifically mentioned or not. Hardware not listed, must be furnished to match other hardware in similar openings.
- B. All hardware shall be complete with screws, strikes etc., individually packed and marked by the hardware manufacturer.
- C. Templates of hardware installation shall be furnished for door and/or frame by the hardware manufacturer as directed by the General Contractor.
- D. Wherever fire rated doors are specified, their hardware shall conform to the rating requirements of the door. All doors marked FPSC are scheduled with either spring hinges or butts with door closers properly adjusted and shall meet requirements of NFPA 80.

**8D.04 REFERENCES**

A. Finish hardware in this section shall meet the following standards as established by the American National Standards Institute, Inc. (ANSI) which is sponsored by the Builders Hardware Manufacturers Association, Inc. (BHMA). Product tests are to be administered by ETL Testing Laboratories, Inc., Underwriters Laboratories, or other official testing laboratories, which have been designated by BHMA or the testing of ANSI standards. The standards latest revision will be in effect.

B. Materials and Finishes:

|                                       |                                  |
|---------------------------------------|----------------------------------|
| Butts & Hinges                        | ANSI A156.01 Grade 1             |
| Locks & Lock Trims                    | ANSI A156.02 Grade 1             |
| Exit Devices                          | ANSI A156.03 Grade 1             |
| Door Controls – Closers               | ANSI A156.04 Grade 1             |
| Auxiliary Locks & Associated Products | ANSI A156.05 Grade 1             |
| Architectural Door Trim               | ANSI A156.06 Grade 1             |
| Template Hinge Dimensions             | ANSI A156.07 Grade 1             |
| Door Controls – Overhead Holder       | ANSI A156.08 Grade 1             |
| Mortise Locks & Latches               | ANSI A156.13 Grade 1 Operational |

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Privacy Locks

ANSI A125.2 Grade 2

- C. Listed Hardware: Hardware which is to be installed in or on fire labeled doors and frames, Class A or lesser, single or pairs, shall be tested and listed by Underwriters Laboratories and/or Warnock Hersey Laboratories Division. Exit devices, which are to be used as a panic hardware shall be tested and listed in Underwriters Laboratories "Accident Equipment List – Panic Hardware". All listed hardware shall comply with National Fire Protection Association Number 80, and properly stamped or labeled for easy identification.

8D.05 MISCELLANEOUS REQUIREMENTS

- A. Mortise Locksets – All mortise locksets (levers or knobs) shall meet the requirements of ANSI/BHMA A156.13, Series 1000, Operational Grade1, Federal Specification FF-H-106C and shall be listed by Underwriter Laboratories for A and lesser label doors. Mortise locks shall have all functions available in one size case, manufactured from heavy gauge steel, minimum thickness 3/32", chrome plated for corrosion resistance and lubricity of parts. The handing of all locks shall be reversible without the disassembly of the lock case. Cases are to be closed on all sides to protect internal parts. Locks are to have adjustable, beveled and armored fronts, standard 2 ¾" basket, a full ¾" throw two-piece stainless steel anti-friction latch bolt, and one-piece stainless steel 1" throw dead bolt. All internal parts shall be heavy gauge steel, zinc dichromate plated for corrosion resistance.
- B. Cylindrical Locksets – All cylindrical locksets (levers or knobs) shall meet the requirements of ANSI/BHMA A125.2 Series 4000 Grade 2, Federal Specification FF-H-106C, Series 160 and shall be listed by Underwriter Laboratories for A and lesser label doors.

Note: Tubular type construction of Grade 2 locksets will not be accepted.

- C. Cylinders - All cylinders shall have six (6) pins.
1. Furnish one spare cylinder for every 20 Dwelling Units or less.
  2. Furnish one spare cylinder for Building Entrance and Vestibule doors.
  3. Furnish one spare cylinder for Building Exterior and Interior Basement doors.
  4. Furnish one spare cylinder for Elevator Machine room and Elevator Bulkhead doors.
- D. Special tools
1. Furnish three pieces of each type of special tool necessary for the adjustment or installation of hardware items.

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E. Door stops

1. All swinging doors opening against a building wall, partition etc., shall be provided with a doorstop. Stops to be as specified, or as appropriate to suit field conditions.

F. Silencers

1. Provide 3 rubber silencers on door frames that have self-closing hinges and door closers.

G. Dead bolts

1. At all mortise locksets dead bolts to have 1" throw.

H. Key control system and key cabinet.

1. The contractor shall provide a key control system including, labels, tags with self-locking key clips, visible card index, temporary markers, permanent markers and standard key cabinet, all as recommended by the system's manufacturer, with capacity for 150 percent of the number of locks required for the project.
2. Wall mounted type, key steel cabinet, and a complete system, equipped to accommodate keys for all cylindrical locks. Key cabinet shall have; a full length, heavy-duty piano hinge, easy access slotted steel key racks with number guides and numbered key control charts, durable molded plastic key tags, large easy to read numbers, metal snap hooks and yellow "key loaned" tags included with key cabinet.

I. Keying

1. All cylinders shall be keyed into a new factory registered master key system where permanent records shall be established and maintained.
2. Except where otherwise specified locksets, exit devices, and cylinders shall be of the same manufacturer to assure proper operation.
3. During construction phase provide construction master keyed cylinders. Construction operating keys shall not be a part of the owner's permanent keying system.
4. The permanent keys shall be sent to the Owner and/or Owner's representative as directed.

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5. All master keys shall be sent identified with a registry number, and shall not be stamped with master or the letter "M".
6. Furnish:

|                          |         |
|--------------------------|---------|
| Grand Master Keys        | - 3Each |
| Master Keys Each Section | - 3Each |
| Change Keys per Cylinder | - 3Each |
| Construction Master Keys | - 5Each |
7. All master keys shall be delivered to the Owner and/or Owner's representative via registered mail.

8D.06 HARDWARE SAMPLES AND SCHEDULES

- A. One sample of each different kind of hardware shall be furnished for Architect/Engineer review and approval prior delivery to the project. These samples will be held by the Architect/Engineer representative until completion of the project and will be turned over to the building owner. They will serve as product samples for future hardware replacement.
- B. Complete schedule and necessary manufacturer's data (catalog cuts) on each hardware item proposed should be submitted for approval by Architect/Engineer.

8D.07 ACCEPTABLE MANUFACTURERS

- A. The following are presently approved manufacturers of Finish Hardware:

NOTE: All type of hardware for each building shall be of the same manufacturer.

1. Locksets/Latch sets;
  - a. Arrow, Corbin-Russwin, Marks, Sargent, Securitech and Yale.
2. Hinges;
  - a. Stanley and Hager.
3. Closers;
  - a. Arrow, LCN, Norton, Sargent and Thomas Ind.
4. Miscellaneous;
  - a. Auth, Don-Jo, Engineering Products, Zero Int.

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- B. Requirements for design; grade, fire-rating, functions, size, finishes, and other distinctive qualities of each type of finish hardware, are indicated in the hardware schedule at the end of this section.
- C. FINISHES
1. Butts and Spring Hinges - Prime Coat (USP).
  2. Locks and Latch Sets, Kick Plates, Door Stops, Door Chain and door fasteners for apartments shall be – Dull Bronze (US 10) or as indicated in door schedule.
  3. Locks and Latch Sets, Kick Plates (where indicated) for all basement and exterior doors shall be – Dull Stainless Steel (US32D) or as indicated in door schedule.
  5. Lever handles shall be with abrasive coating inside and outside for building equipment / utility rooms.
  6. Lockset and Door Stop finish inside of bathroom shall be – Chrome Plated (US26) or Stainless Steel (US32).

8D.08 LOCATION OF HARDWARE

- A. TOP BUTT HINGES - Top butt hinges for all doors should be 5" distance from head of door rabbet to top edge of butt hinge.
- B. BOTTOM BUTT HINGES - Bottom butt hinges for all doors with or without saddles should be 10" distance from finished floor line to bottom edge of butt hinge, except as follows:
1. Where floor levels vary at both sides of door, bottom butt hinge should be located to conform to those on adjacent doors.
  2. Where door opening has trim on four sides, bottom butt hinge should be 5" distance from sill jamb rabbet to bottom edge of butt hinge.
  3. Where curb occurs at exterior or interior door, bottom hinge should be 10" distance from top of flush saddle or top of saddle rabbet to bottom edge of butt hinge.
- C. INTERMEDIATE BUTT HINGES - Intermediate butt hinges for all doors, where specified, should be equally spaced between top and bottom butt hinges.
- D. HINGE SIZE - Sizes of hinges shall be as follows (based on width of doors):

|                       |                   |                     |                      |
|-----------------------|-------------------|---------------------|----------------------|
| <u>Door Thickness</u> | <u>Door Width</u> | <u>Hinge Height</u> | <u>Hinge Width *</u> |
|-----------------------|-------------------|---------------------|----------------------|

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|        |             |        |              |
|--------|-------------|--------|--------------|
| 1 3/8" | up to - 32" | 3 1/2" | 3 1/2"       |
| 1 3/8" | over - 32"  | 4"     | 4"           |
| 1 3/4" | up to - 36" | 4 1/2" | 4" or 4 1/2" |
| 1 3/4" | over - 36"  | 5"     | 4 1/2" **    |
| 1 3/4" | over - 48"  | 6"     | 4 1/2" **    |
| 2 1/2" | up to - 42" | 6"     | 4 1/2" **    |
| 2 1/2" | over - 42"  | 6"     | 4 1/2" **    |

\* Width of hinges shall be the minimum, which will provide clearance of trim and permit 180-degree swing.

\*\* Extra Heavy Ball Bearings

E. NUMBER of HINGES - Quantities of hinges per door leaf, based on door height shall be;

1. For doors less than 5'-0" high - 1 pair
2. For doors 5 feet to 7'-6" high - 1 1/2 pairs
3. For doors 7'-7" to 10'-0" high - 2 pairs

F. DOOR KNOBS - Unless otherwise scheduled, all door-knobs should be centered 3'-2" from the finished floor. All knobs shall be screw-less type.

G. DOOR LEVERS - Unless otherwise scheduled, all door levers should be centered 3'-2" from the finished floor including levers for doors above curbs. For exterior doors with access by interior stairs, the finished floor should be taken as the top of the platform or tread. All levers shall be screw-less type.

8D.09 DELIVERY OF HARDWARE, PACKING AND STORAGE

- A. All items of hardware delivered to the job site shall be completely packaged with all necessary screws, bolts, miscellaneous parts, installation instructions, and where necessary manufacturer's installation templates. They are to be clearly labeled, to conveniently identify them and their intended location in the building.
- B. Finish hardware shall be stored in a dry, locked storage space, complete with shelving for the purpose of unpacking, sorting out and checking.
- C. Items damaged in shipment shall be replaced promptly with proper material, and without additional cost to the Owner.
- D. All hardware shall be handled in manner to minimize marring or scratching.

8D.10 FINISH HARDWARE AND SCHEDULES

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- A. The following is general listing of the recommended hardware requirements, and is not for use as a final hardware schedule. Any items of hardware required by established standards or practices, or to meet federal, state, and local codes, shall be furnished whether or not specifically called out in the following sets.

Hardware Set # 1 - Apartment Entrances:

|   |   |
|---|---|
| 1 1/2 (pair) Spring Hinges [fire-rated]   | SP2060R 4 1/2" x 4 1/2" x USP - (Stanley) |
| 1 Lockset                                 | AM11HBH x US10 - (Arrow)                  |
|   | BM11HSH x US10 [Ⓢ] - (Arrow)              |
| 1 Chime Interviewer w/fire-rated viewer * | # 686104 x US10 - (Auth)                  |
| 1 Chain Door Guard                        | # 1607 x US10 - (Don-Jo)                  |
| 1 Wall Stop                               | # 1506 x US10 or to suit - (Don-Jo)       |
| 1 Kick Plate 2"LDW x 8" x .05"            | # J102 x US10 - (Don-Jo)                  |
| 3 Rubber Silencers for Metal Frames       | # 1608 x Gray - (Don-Jo)                  |
| 1 Door Saddle                             | # 6570A [Ⓢ] or to suit - (Zero Int.)      |

\* Note – In addition provide removable plug in lower hole of the door for Chime Interviewer installation, when apartment becoming adaptable (wheelchair handicap occupant).

Hardware Set # 2 - Bathrooms:

|                                     |   |
|-------------------------------------|---|
| 1 (pair) Hinges                     | RD741BA 3 1/2"x 3 1/2" x USP- (Stanley) |
| 1 Privacy Lock                      | MK02BD x US10/US26 - (Arrow)            |
|                                     | MP02PD x US10/US26 [Ⓢ] - (Arrow)        |
| 1 Wall Stop                         | # 1506 x US10 or to suit - (Don-Jo)     |
| 3 Rubber Silencers for Metal frames | # 1608 x Gray - (Don-Jo)                |
| 1 Door Saddle                       | Solid marble                            |

Hardware Set # 3 - Bedrooms:

|                                     |   |
|-------------------------------------|---|
| 1 (pair) Hinges                     | RD741BA 3 1/2"x 3 1/2" x USP- (Stanley) |
| 1 Privacy Lock                      | MK02BD x US10 - (Arrow)                 |
|                                     | MP02PD x US10 [Ⓢ] - (Arrow)             |
| 1 Wall Stop                         | # 1506 x US10 or to suit - (Don-Jo)     |
| 3 Rubber Silencers for Metal frames | # 1608 x Gray - (Don-Jo)                |

Hardware Set # 3a - Bedrooms with fire escape egress:

|                                     |   |
|-------------------------------------|---|
| 1 (pair) Hinges                     | RD741BA 3 1/2"x 3 1/2" x USP- (Stanley) |
| 1 Passage Lock                      | MK01BD x US10 - (Arrow)                 |
|                                     | MP01PD x US10 [Ⓢ] - (Arrow)             |
| 1 Wall Stop                         | # 1506 x US10 or to suit - (Don-Jo)     |
| 3 Rubber Silencers for Metal frames | # 1608 x Gray - (Don-Jo)                |

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Hardware Set # 4 - Closets:

|                  |                                |                 |
|------------------|--------------------------------|-----------------|
| 1 (pair) Hinges  | RD741BA 3 1/2" x 3 1/2" x USP- | (Stanley)       |
| 1 Dummy Trim     | MK08BD x US10                  | - (Arrow)       |
|                  | MP08PD x US10 [ ⚡ ]            | - (Arrow)       |
| 1 Magnetic Catch | # 542 (single door)            | - (Eng. Prdct.) |
|                  | # 543 (double door)            | - (Eng. Prdct.) |
| 1 Wall Stop      | # 1506 x US10 or to suit       | - (Don-Jo)      |

Hardware Set # 5 - Linen Closets:

|                  |                                |                 |
|------------------|--------------------------------|-----------------|
| 1 (pair) Hinges  | RD741BA 3 1/2" x 3 1/2" x USP- | (Stanley)       |
| 1 Dummy Trim     | MK08BD x US10                  | - (Arrow)       |
|                  | MP08PD x US10 [ ⚡ ]            | - (Arrow)       |
| 1 Magnetic Catch | # 542 (single door)            | - (Eng. Prdct.) |
| 1 Wall Stop      | # 1506 x US10 or to suit       | - (Don-Jo)      |

Hardware Set # 6 - Basement or Cellar to Exterior (except apartment entrances):

|                                     |                              |               |
|-------------------------------------|------------------------------|---------------|
| 1 1/2 pair Butts [fire-rated]       | FBB168 4 1/2" x 4 1/2" x USP | - (Stanley)   |
| 1 Lockset                           | BM32HSL x US32D              | - (Arrow)     |
| 1 Door Closer with Metal Housing    | 5016A1 x AL                  | - (Arrow)     |
| 1 Floor Stop                        | # 1445 x US26D or to suit    | - (Don-Jo)    |
| 3 Rubber Silencers for Metal frames | # 1608 x Gray                | - (Don-Jo)    |
| 1 Door Saddle                       | # 6570A-E [ ⚡ ] or to suit   | - (Zero Int.) |

Hardware Set # 7 - Stair Bulkheads:

|   |                               |               |
|---|-------------------------------|---------------|
| 1 1/2 (pair) Spring Hinges [fire-rated] | SP2060R 4 1/2" x 4 1/2" x USP | - (Stanley)   |
| 1 Latchset                              | BM01HSL x US32D               | - (Arrow)     |
| 1 Heavy Duty Crash Chain w/Spring       | # HDCC w/Vinyl cover          | - (Don-Jo)    |
| 1 Exit Control Lock                     | # 330 x AL                    | - (Arrow)     |
| 3 Rubber Silencers for Metal Frames     | # 1608 x Gray                 | - (Don-Jo)    |
| 1 Door Saddle                           | # 6570A-E [ ⚡ ] or to suit    | - (Zero Int.) |

Hardware Set # 8 - Boiler Room:  
- Compactor Room:  
- Trash Room:

|   |                               |             |
|---|-------------------------------|-------------|
| 1 1/2 (pair) Spring Hinges [fire-rated] | SP2060R 4 1/2" x 4 1/2" x USP | - (Stanley) |
| 1 Lockset                               | BM12HSL.113/114 x US32D-      | (Arrow)     |

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|                                     |                           |               |
|-------------------------------------|---------------------------|---------------|
| 3 Rubber Silencers for Metal Frames | # 1608 x Gray             | - (Don-Jo)    |
| 1 Floor Stop/Holder                 | # 1473 x US26D or to suit | - (Don-Jo)    |
| 3 Rubber Silencers for Metal Frames | # 1608 x Gray             | - (Don-Jo)    |
| 1 Door Saddle                       | # 6570A [ ⚡ ] or to suit  | - (Zero Int.) |

Hardware Set # 9 - Elevator Machine Room:

|   |                               |                |
|---|-------------------------------|----------------|
| 1 1/2 (pair) Spring Hinges [fire-rated] | SP2060R 4 1/2" x 4 1/2" x USP | - (Stanley)    |
| 1 Lockset                               | # 4840-HG Mul-T-Lock          | - (Securitech) |
| 1 Cylinder                              | Securitech Profile - Type 3   | - (Securitech) |
| 1 Guard Plate                           | Securitech # 4000GP           | - (Securitech) |
| 1 Dummy Trim                            | BM09HSL.113/114 x US32D-      | (Arrow)        |
| 3 Rubber Silencers for Metal Frames     | # 1608 x Gray                 | - (Don-Jo)     |
| 1 Floor Stop/Holder                     | # 1473 x US26D or to suit     | - (Don-Jo)     |
| 1 Door Saddle                           | # 6570A [ ⚡ ] or to suit      | - (Zero Int.)  |

Hardware Set # 10 - Elevator Bulkhead:

|   |                               |                |
|---|-------------------------------|----------------|
| 1 1/2 (pair) Spring Hinges [fire-rated] | SP2060R 4 1/2" x 4 1/2" x USP | - (Stanley)    |
| 1 Lockset                               | # 4840-HG Mul-T-Lock          | - (Securitech) |
| 1 Cylinder                              | Securitech Profile - Type 3   | - (Securitech) |
| 1 Guard Plate                           | Securitech # 4000GP           | - (Securitech) |
| 1 Latchset                              | BM01HSL x US32D               | - (Arrow)      |
| 1 Heavy Duty Crash Chain w/Spring       | # HDCC w/Vinyl cover          | - (Don-Jo)     |
| 3 Rubber Silencers for Metal Frames     | # 1608 x Gray                 | - (Don-Jo)     |
| 1 Floor Stop/Holder                     | # 1473 x US26D or to suit     | - (Don-Jo)     |
| 1 Door Saddle                           | # 6570A-E [ ⚡ ] or to suit    | - (Zero Int.)  |

Hardware Set # 11 - Basement or Cellar Interior (except apartment entrances):

- Janitor Closets:
- Gas Meter Room:
- Electric Meter Room:
- Stair to Cellar:

|   |                               |               |
|---|-------------------------------|---------------|
| 1 1/2 (pair) Spring Hinges [fire-rated] | SP2060R 4 1/2" x 4 1/2" x USP | - (Stanley)   |
| 1 Lockset                               | BM12HSL x US32D               | - (Arrow)     |
| 1 Floor Stop/Holder                     | # 1473 x US26D or to suit     | - (Don-Jo)    |
| 3 Rubber Silencers for Metal Frames     | # 1608 x Gray                 | - (Don-Jo)    |
| 1 Door Saddle                           | # 6570A [ ⚡ ] or to suit      | - (Zero Int.) |

Hardware Set # 12 - Community or Commercial Space Toilet:

|                               |                              |             |
|-------------------------------|------------------------------|-------------|
| 1 1/2 pair Butts [fire-rated] | FBB168 4 1/2" x 4 1/2" x USP | - (Stanley) |
| 1 Lockset                     | BM02HSL x US32D [ ⚡ ]        | - (Arrow)   |

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|                                     |                           |               |
|-------------------------------------|---------------------------|---------------|
| 1 Door Closer with Metal Housing    | 5016A1 x AL [ Ⓢ ]         | - (Arrow)     |
| 1 Floor Stop                        | # 1445 x US26D or to suit | - (Don-Jo)    |
| 3 Rubber Silencers for Metal Frames | # 1608 x Gray             | - (Don-Jo)    |
| 1 Door Saddle                       | # 6570A [ Ⓢ ] or to suit  | - (Zero Int.) |

Hardware Set # 13 - Building Laundry:

|                                     |                              |               |
|-------------------------------------|------------------------------|---------------|
| 1 1/2 pair Butts [fire-rated]       | FBB168 4 1/2" x 4 1/2" x USP | - (Stanley)   |
| 1 Lockset                           | BM12HSL x US32D              | - (Arrow)     |
| 1 Door Closer with Metal Housing    | 5016A1 x AL                  | - (Arrow)     |
| 1 Floor Stop/Holder                 | # 1473 x US26D or to suit    | - (Don-Jo)    |
| 3 Rubber Silencers for Metal Frames | # 1608 x Gray                | - (Don-Jo)    |
| 1 Door Saddle                       | # 6570A [ Ⓢ ] or to suit     | - (Zero Int.) |

Hardware Set # 14 - Community Space:

|                                     |                              |               |
|-------------------------------------|------------------------------|---------------|
| 1 1/2 pair Butts [fire-rated]       | FBB168 4 1/2" x 4 1/2" x USP | - (Stanley)   |
| 1 Lockset                           | BM12HSL x US32D [ Ⓢ ]        | - (Arrow)     |
| 1 Door Closer with Metal Housing    | 5016A1 x AL                  | - (Arrow)     |
| 1 Floor Stop/Holder                 | # 1473 x US26D or to suit    | - (Don-Jo)    |
| 3 Rubber Silencers for Metal Frames | # 1608 x Gray                | - (Don-Jo)    |
| 1 Door Saddle                       | # 6570A [ Ⓢ ] or to suit     | - (Zero Int.) |

Hardware Set # 15 - Emergency Exit (H/M Door):

|                                     |                              |               |
|-------------------------------------|------------------------------|---------------|
| 1 1/2 pair Butts [fire-rated]       | FBB168 4 1/2" x 4 1/2" x USP | - (Stanley)   |
| 1 Mortise Exit Device               | S3900SL03 x US32D            | - (Arrow)     |
| 1 Door Closer with Metal Housing    | 5016A1 x AL                  | - (Arrow)     |
| 3 Rubber Silencers for Metal Frames | # 1608 x Gray                | - (Don-Jo)    |
| 1 Door Saddle                       | # 6570A-E [ Ⓢ ] or to suit   | - (Zero Int.) |

Hardware Set # 16 - Emergency Exit (Steel Gate):

|  |                               |                |
|--|-------------------------------|----------------|
| 1 pair Barrel Hinges/Weld-On [800 lbs]   | # 610505 [5" x 2 1/4"] x USP- | (Daro Ind.)    |
| or                                       |                               |                |
| 1 pair Barrel Hinges/Weld-On [1,200 lbs] | # 610608 [7" x 2 3/4"] x USP- | (Daro Ind.)    |
| 1 Rim Exit Device                        | S3800SL03 x US32D             | - (Arrow)      |
| 1 Hydraulic Gate Closer                  | Shur-Shut ®                   | - (Thomas Ind) |

Hardware Set # 17 - Fire Passage:

|                               |                              |             |
|-------------------------------|------------------------------|-------------|
| 1 1/2 pair Butts [fire-rated] | FBB168 4 1/2" x 4 1/2" x USP | - (Stanley) |
|-------------------------------|------------------------------|-------------|

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|                                     |                            |               |
|-------------------------------------|----------------------------|---------------|
| 1 Lockset                           | BM01HSL x US32D            | - (Arrow)     |
| 1 Door Closer with Metal Housing    | 5016A1 x AL                | - (Arrow)     |
| 3 Rubber Silencers for Metal Frames | # 1608 x Gray              | - (Don-Jo)    |
| 1 Door Saddle                       | # 6570A-E [ ⚡ ] or to suit | - (Zero Int.) |

Hardware Set # 18 - Building Entrance (Aluminum & Steel Doors):

|  |                            |                |
|--|----------------------------|----------------|
| 1 Lockset/Electromagnet with protective aluminum channel | # 9032 Maglatch            | - (Securitech) |
| 1 Continuous Aluminum Hinge                              | # 912DB x AA or D          | - (Zero Int.)  |
| or   |                            |                |
| 1 Continuous Aluminum Hinge with;                        | # 910DB x AA or D          | - (Zero Int.)  |
| 1 Mini Electrified Hinge.                                | # ECH-FM x AA or D, 2 1/2" | - (Securitech) |
| 1 Door Closer with Metal Housing                         | # 4510T Series             | - (LCN)        |
| 1 Sill Protection Sweep                                  | # 39 x A or D              | - (Zero Int.)  |
| 1 Kick Plate with Beveled Edges                          | 34" x 7" x .05" x US32D    | - (Don-Jo)     |
| 1 Floor Stop   | # 1445 x US26D or to suit  | - (Don-Jo)     |
| 1 Door Saddle with epoxy abrasive top                    | # 6570A-E [ ⚡ ]            | - (Zero Int.)  |

Hardware Set # 19 - Building Vestibule (Aluminum & Steel Doors):

|                                   |                            |                |
|-----------------------------------|----------------------------|----------------|
| 1 Lockset                         | # 9012Electrolach          | - (Securitech) |
| 1 Continuous Aluminum Hinge       | # 912DB x AA or D          | - (Zero Int.)  |
| or                                |                            |                |
| 1 Continuous Aluminum Hinge with; | # 910DB x AA or D          | - (Zero Int.)  |
| 1 Mini Electrified Hinge.         | # ECH-FM x AA or D, 2 1/2" | - (Securitech) |
| 1 Door Closer with Metal Housing  | # 4510T Series             | - (LCN)        |
| 1 Kick Plate with Beveled Edges   | 34" x 7" x .05" x US32D    | - (Don-Jo)     |
| 1 Floor Stop                      | # 1445 x US26D or to suit  | - (Don-Jo)     |
| 1 Door Saddle                     | # 6570A [ ⚡ ]              | - (Zero Int.)  |

NOTE – SEE DRAWINGS/HARDWARE SCHEDULE FOR SPECIAL DOOR HARDWARE NOT LISTED ABOVE.

8D.11 INSTALLATIONS

- A. Fit, adjust and secure each item neatly and firmly in place in perfect working order.
- B. Latch bolts shall be installed to automatically engage in strikes when the door closes. In no case shall additional pressure be required to engage latch bolt strike.
- C. Set stops and holders for swings indicated on the Drawings.
- D. Adjust all spring hinges and automatic door closers for proper smooth operations.

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- C. Cope end of thresholds neatly to profile of jambs. Thresholds shall be set in caulking compound and ends shall be sealed to jambs.

8D.12 GUARANTEES

- A. Guarantee all items of work furnished and installed under this Section for (1) one year, in addition to manufacturer's standard warranties. All guarantees to be from the date, when **Final Certificate of Occupancy** is issued from Department of Buildings.

END OF SECTION