

**SECTION 08225  
FIBERGLASS DOORS AND FRAMES**

**PART 1 - GENERAL**

**1.01 DESCRIPTION**

- A. Furnish all labor, materials, equipment and appliances required for the complete execution of the Work as shown on Drawings and specified herein.
- B. Principal Items of work include:
  - 1. Fiberglass frames and doors.

**1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. Section 04200 - Unit Masonry
- B. Section 08710 - Finish Hardware
- C. Section 08800 - Glass and Glazing

**1.03 SUBMITTALS**

- A. In accordance with the procedures and requirements set forth in Section 01300 - Submittals, submit the following:
  - 1. Samples shall include:
    - a. Corner sections of frames and trim.
    - b. Corner sections of doors.
    - c. Finish and color charts.
  - 2. Shop Drawings shall include, but not be limited to:
    - a. Complete layout and installation drawings and schedules with clearly marked dimensions. Indicate details of construction, profiles, gauges, reinforcing and location of all doors and frames.
  - 3. Manufacturer's literature.

**1.04 WARRANTY**

- A. The Manufacturer shall unconditionally guarantee the fiberglass reinforced-plastic doors and frames for five (5) years against failure due to corrosion by environmental

conditions. Under this guarantee a new door will be offered replacement or the original factory price will be refunded at the discretion of the manufacturer.

### **1.05 DELIVERY, STORAGE AND HANDLING**

- A. All materials shall be boxed or crated and suitably protected prior to shipment from the factory. Protect all hardware which may be attached.
- B. Protect products against damage during delivery, storage, and handling. Stack materials on blocking clear of ground, tilted to permit water drainage and protected from corrosion and construction abuse.
- C. Frames and doors, after being set shall be protected with heavy Kraft paper or other approved means in such manner to prevent damage. Protection shall be maintained until such time as directed by the Engineer.

## **PART 2 - PRODUCTS**

### **2.01 ACCEPTABLE MANUFACTURERS**

- A. Subject to compliance with the Contract Documents, provide products from one of the following manufacturers:
  - 1. FIB-R-Door Systems
  - 2. Chem Proof Door Company
  - 3. Or Equal.

### **2.02 MATERIALS**

- A. Provide doors and frames from the same manufacturer.
- B. Fiberglass reinforced plastic doors and frames shall be resin transfer molded (RTM). The doors shall be molded in one piece with gel-coat, fiberglass reinforcement, resin and core material molded together. Window openings, door hardware openings and flush hinge recesses shall be molded in. Secondary cutting and coating will not be allowed. Continuous stainless steel bars shall be molded in during the initial molding. The steel plates shall be pretapped to receive screws for attachment of hardware. Door hardware shall be stainless steel.
- C. Fiberglass reinforcement shall consist of a surfacing mat followed by continuous stand mat wrapped around rigid closed cell polyurethane foam core material. The outer surface shall consist of 30 mils of high quality commercial grade polyester gel-coat. Fiberglass laminate shall be a minimum of 1/8 inch on all sides and edges. The outer surface of the finished door and frame shall have a matte finish and be free of pits, porosity, blisters, wrinkles, dry glass, cracks or crazing.

- D. The fiberglass laminate shall have the following minimum physical properties using the applicable ASTM Standards.

Tensile strength	9,000 psi	ASTM D638
Flexural strength	20,000 psi	ASTM D790
Flexural modulus	1.0x10 <sup>6</sup>	ASTM D790
Impact, Notched Izod foot pound per inch	15.0	ASTM D256
Barcol hardness	40 min. average	ASTM D2583
Water Absorption, degrees 24 Hours	0.1 percent	ASTM D570
Average coefficient of thermal expansion inch per inch per degree fahrenheit	10.5x10 <sup>6</sup>	ASTM D696
Flame Spread	25 or less	ASTM E84

**2.03 FIBERGLASS REINFORCED PLASTIC DOOR FRAMES**

- A. FRP frames shall be solid fiberglass. The stop and frame will be molded in one piece. The frame shall be integrally gel-coated to the Owner's color when molded. Mortises will be molded in. It is not permitted to rout in mortises or remove any material from the head or jambs, to provide mortises.
- B. Reinforcement for mounting hinges, closers, etc., shall be of mild steel plates strategically located and buried in the resin-glass matrix so they will not be exposed to the elements.
- C. The jamb shall be flat on the backside (against the opening) and uniform in thickness as to provide a solid, uniform surface against the wall opening. No wood blocks or spacers are permitted.
- D. Frame shall meet the industry accepted design details of a standard frame profile which is 5-3/4 inches overall jamb depth with a two inch face, 5/8 inch stop and 5/8 inch return for both wrap around or butt mounting.
- E. The gel-coat shall be of .025 thick resin rich surface of an isolphthalic or chemical-resistant polyester resin which is resistant to moisture, ultra violet sunlight and many industrial acids, alkalies and solvents and protects the glass reinforcements from degradation.

## **2.04 DOORS**

- A. Fiberglass doors shall be flush type of 1-3/4 inch thickness. Doors shall be constructed with a gel-coat surface of 0.25 resin rich surface of an isophthalic or chemical resistant to moisture, ultra violet sunlight and many industrial acids, alkalies and solvents and protects the glass reinforcement from degradation. The Fiberglass laminate of 1/8 inch thickness shall be the primary structural component of the door. Color shall be selected from manufacturer's standard colors.
- B. The core shall be continuously bonded to the laminate for structural support and rigidity. To enhance this bond, the core shall be perforated so that resin posts are formed during the molding process which additionally ties the outer laminates together.
- C. The fiberglass door shall be formed to size to produce a totally seamless door. All hinge pockets, openings for windows (lites), louvers, locksets and flush bolts are molded in place.
- D. The fiberglass door shall have continuous steel reinforcement for hinge mounting. The lock edge of the door shall be the same steel reinforcement, except it will be interrupted at the lock location for lock installation. The manufacturer shall provide a 1/8 inch thick, 5-inch high x 18 inch long steel reinforcement for closer mounting. Totally encapsulated reinforcements in fiberglass.
  - 1. The door shall be prepared for hardware specified in Section 08710 - Finish Hardware.

## **2.05 FIRE RETARDANT**

- A. The doors and frame shall be "Fire Resistant" and will not support combustion.

## **2.06 ANCHORS**

- A. Jamb anchors shall be 14 gauge galvanized, flat, "T" anchors to suit frame size with legs not less than three inches by 10 inches. Set anchors at every three masonry courses, a minimum of three per jamb.
- B. For cast-in-place concrete, anchor frame jambs with 3/8 inches minimum counter-sunk bolts into expansion shield or inserts, with crush-proof sleeves. Provide a minimum of three per jamb.
- C. Floor anchors at doors shall be 16 gauge galvanized sheet steel at each jamb. Clip type anchors with two holes to receive fasteners.

### **PART 3 - EXECUTION**

#### **3.01 FRAME INSTALLATION**

- A. Install plumb, level and true to line, rigidly secured in openings. Set frames in masonry walls prior to beginning masonry work.

#### **3.02 DOOR INSTALLATION**

- A. Install plumb, level and true to line. Apply and adjust hardware to achieve quiet and smooth operation.
- B. Doors shall fit snugly and close without forcing or binding. Door clearances shall not exceed 1/8 inch at jambs and heads and meeting stiles at pairs of doors. Clearance between bottom of door and finished floor material or threshold shall not exceed 1/4 inch. Frames shall be manufactured and machined to within 1/32 inch for all dimensions.

#### **3.03 PROTECTION**

- A. Protect installation from damage and touch up scratched areas with same paint used for shop coats. Damaged work shall be repaired or replaced.

**END OF SECTION 08225**

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**SECTION 08330  
ROLL-UP DOORS**

**PART 1 - GENERAL**

**1.01 DESCRIPTION**

- A. Furnish labor, materials, equipment and appliances required for complete execution of Work shown on Drawings and specified herein.

**1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. Section 08710 - Finish Hardware
- B. Section 09900 - Painting
- C. Electrical connections for motors, and accessories are specified in Division 16.

**1.03 SUBMITTALS**

- A. In accordance with the procedures and requirements set forth in Section 01300 - Submittals, submit the following:
  - 1. Manufacturer's literature and installation instructions.
  - 2. Drawings showing details of the products, connections to adjoining materials, and schedules showing sizes and types.
  - 3. Finish and color samples.

**1.04 PRODUCT DELIVERY, STORAGE AND HANDLING**

- A. Deliver products in original and unbroken packages, containers, or bundles bearing the name of the manufacturer.
- B. Store materials carefully in an area that is protected from the elements, and in a manner that will prevent damage or marring of the door.

**PART 2 - PRODUCTS**

**2.01 ACCEPTABLE MANUFACTURERS**

- A. Subject to compliance with these specifications provide products from one of the following manufacturer:
  - 1. Cornell Iron Works, Inc.

2. Atlas Roll-lite Door Corporation.
3. The Cookson Company.
4. Overhead Door Corporation.
5. Or Equal.

## 2.02 MATERIALS

### A. Door Curtains

Provide insulated aluminum curtain slats with interlocking sections designed to meet 20 psf minimum windload. Provide high strength endlocks on alternating slats and windlocks as required to meet design windload. Bottom bar as recommended by manufacturer for type of curtain specified with combination weatherstrip and reversing edge for motor operated doors.

### B. Guides

Form from aluminum angles with a minimum 3/16 inch thickness. Provide windlock bars as required to meet design windload. Attach guides to jamb with not less than 3/8 inch steel bolts anchored not more than 30 inches on center.

### C. Counterbalance Assembly

Counterbalance by means of adjustable steel helical torsion springs, mounted around a steel shaft and mounted in a spring barrel and connected to the door curtain with the required barrel rings. Use grease -sealed ball bearings or self-lubricating graphite bearings for all rotating members.

1. Fabricate spring barrel of hot-formed, structural-quality carbon steel, galvanized welded or seamless pipe, of sufficient diameter and wall thickness to support the roll-up of curtain without distortion of slats and limit barrel deflection to not more than .03 inches per foot of span under full load.
2. Fabricate spring balance of one or more oil-tempered, heat-treated steel helical torsion springs.
3. Fabricate torsion rod for counterbalance shaft of case-hardened steel, of required size to hold the fixed spring ends and carry the torsional load.
4. Provide mounting brackets of manufacturer's standard design, either cast iron or cold-rolled steel plate with bellmouth guide groove for curtain.

### D. Door Hoods

Formed of 0.02" aluminum with baked on polyester primer. Form to enclose coiled curtain at opening head. Reinforce top and bottom edges. Provide closed ends for surface mounted units. Provide intermediate supports as required to prevent excessive sag.



E. Operation: Manual hand chain operator.

1. Endless hot-dip galvanized hand chain of length so bottom of chain is four feet above finished floor. Provide sprockets and reduction gears for ease of operation and a maximum pull of 35 pounds.
2. Locks: Provide with a slide bolt lock.

F. Weatherstripping

Equip bottom bar with vinyl weatherstrip. Provide motor operated doors with vinyl sensing/weather edge. Equip end guides with weatherstripping to seal both faces of door curtain. Equip hood with neoprene air baffle to close top of hood with curtain.

G. Finish

Aluminum to be baked-on Kynar 500 finish. Galvanized steel to be chemically cleaned and shop primed. Parts inaccessible after installation shall be given an additional coat in the shop. Color shall be selected by Owner from full range of colors.

## **PART 3 - EXECUTION**

### **3.01 INSPECTION**

- A. Examine substrates and adjoining conditions, where roll-up door is to be installed. Correct unsatisfactory conditions prior to proceeding with the work.

### **3.02 INSTALLATION**

- A. Install units and operating equipment complete with necessary hardware, jamb, and head moldings, anchors, inserts, hangers and equipment supports in accordance with final approved shop drawings, manufacturer's printed instructions and as specified herein.
- B. Field touch-up shop applied finishes of surfaces scratched or abraded during installation.
- C. Do all cutting, drilling, fitting and other work of similar character required for fitting and setting units in connection with this work and adjoining work of other trades.

### **3.03 PROTECTION, CLEANING AND ADJUSTMENT**

- A. Protect units prior, during and after installation.
- B. After installation, lubricate, test and adjust to operate easily and freely from warps, twists or distortion and weathertight fit.

**END OF SECTION 08330**

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**SECTION 08710  
FINISH HARDWARE**

**PART 1 - GENERAL**

**1.01 DESCRIPTION**

- A. Furnish all labor, materials, equipment and appliances required for the complete execution of Work as shown on Drawings and specified herein.

**1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. Section 08225 - Fiberglass Doors and Frames
- B. Section 08330 - Roll-Up Doors

**1.03 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS**

- A. Without limiting the generality of these specifications, the Work shall conform to the applicable requirements of the following documents:
  - 1. ANSI/BHMA 156

**1.04 SUBMITTALS**

- A. In accordance with the procedures and requirements set forth in Section 01300 - Submittals, submit the following:
  - 1. Manufacturers' data for each item of hardware. Include installation and maintenance instructions.
  - 2. Furnish templates to fabricators of other work which is to receive hardware.
  - 3. Hardware schedule organized into "hardware sets," indicating complete designation of every item required for each door or opening. Furnish initial draft of schedule at the earliest possible date in order to facilitate the fabrication of other work (such as hollow metal frames) which may be critical in the project construction schedule. Furnish final draft of schedule after samples, manufacturer's data sheets, coordination with shop drawings for other work, delivery schedules, and similar information has been completed and accepted.
  - 4. Prepare a keying schedule in consultation with the Owner.

### **1.05 QUALITY ASSURANCE**

- A. Provide materials, assemblies, equipment and services from a single source for each category except that locksets, latchsets and cylinders must originate from the same manufacturer.
- B. Replace any item of finish hardware which cannot be installed or will not function properly.
- C. Provide hardware complying with NFPA 80 and UL labeled for fire rated openings.
- D. Furnish templates or information to door and frame manufacturer. Coordinate between the manufacturers where two or more articles of hardware are to be mounted on the same door. Verify all dimensions, new and existing.
- E. Coordinate hardware with other work. Furnish hardware items of proper design for use on doors and frames of the thicknesses, profile, swing, security and similar requirements indicated, as necessary for proper installation and function.

### **1.06 DELIVERY, STORAGE AND HANDLING**

- A. Handle, store, distribute, protect and install hardware in accordance with manufacturer's instructions or recommendations. Deliver packaged materials in original containers with seals unbroken and labels intact.
- B. Properly mark or label, so each piece of hardware is readily identifiable with the approved hardware schedule. Tag each change key or otherwise identifying the door of which its cylinder is intended. Where double cylinder functions are used or where it is not obvious which is the key side of a door, appropriate instructions shall be included with the lock and hardware schedule.
- C. Provide secure storage area for hardware.

## **PART 2 - PRODUCTS**

### **2.01 MATERIALS AND FABRICATION**

- A. Hand of Door
  - 1. Drawings show swing or hand of each door leaf (left, right, reverse bevel, etc.). Furnish hardware for proper installation and operation of door.
- B. Manufacturer's Name Plate
  - 1. Do not use manufacturer's products which have name or trade name displayed in a visible location (omit removable nameplates), except in conjunction with required UL labels.

C. Base Metals

1. Produce hardware units of the basic metal and forming method indicated, using manufacturer's non-corrosive metal alloy, composition, temper and hardness but in no case of lesser quality material than specified.

D. Fasteners

1. Manufacture hardware to conform to published templates, generally prepared for machine screw installation. Do not provide hardware which has been prepared for self tapping sheet metal screws, except as specifically indicated.
2. Furnish stainless steel fasteners for installation with each hardware item. Exposed finish (under any condition) to match hardware finish or surfaces of adjacent work. Match the finish of adjacent work as closely as possible, including surfaces to receive painted finish.
3. Provide fasteners which are compatible with unit fastened and the substrate, and which will not cause corrosion or deterioration of finish hardware, base material or fastener.

E. Tools for Maintenance

1. Furnish a complete set of specialized tools as needed for Owner's continued adjustment, maintenance, removal and replacement of builder's hardware.

F. Hardware Finishes

1. Stainless steel, US32D unless otherwise noted.
2. Closers shall have a USP finish unless otherwise noted.

G. Field Checks

1. Make periodic checks during installation of finish hardware to ascertain the correctness of the installation. After completion of the work, certify in writing, that all items of finish hardware have been installed, adjusted and are functioning in accordance with Specification requirements.

## 2.02 DESCRIPTION OF PRODUCTS

A. Hinges

1. Stainless steel full mortise concealed oil impregnated ball bearing type, five knuckle with non-rising pins for interior doors, and non-removable and non-rising pins for exterior doors. Tips shall be flat.
2. Sizes and weights of hinges:

- a. Doors up to 36 inches - 4-1/2 inches regular weight.
  - b. Doors 36 inches to 40 inches - 5 inches regular weight.
  - c. Doors 40 inches to 48 inches - 5 inches heavy weight.
3. Provide three hinges per door leaf up to and including 90 inches and one additional hinge for each 30 inches of additional height.
  4. Acceptable Manufacturers: Stanley Hardware, Hager Hardware, or Equal.

B. Locksets and Latchsets

1. Stainless steel, heavy-duty mortise type conforming to ANSI A156.13 Series 1000, Grade 1.
2. Wrought steel box strikes.
3. Stainless steel deadbolt with 1 inch throw, approval.
4. 2 3/4 inch back set, 3/4 inch throw, two-piece anti-friction latchbolt.
5. Non-ferrous critical internal parts.
6. Cylinders shall be manufactured to conform to grand master key program.
7. Trim Design: Provide LWM (lever) by Corbin\Russwin or equal.
8. Acceptable Manufacturers: Yale, Corbin\Russwin, Schlage, or Equal.

C. Keys and Keying

1. Provide construction keyed, removable core master key system as directed by the Owner.
2. Furnish ten core removal keys and a quantity of master keys as directed by the Owner, not to exceed ten each per group. Furnish a minimum of 15 change keys per cylinder.
3. Furnish cylinders with six pin cores.
4. Provide a key schedule showing all key numbers and spaces to which each permits entry. The schedule and key cabinet, along with key gathering envelopes containing keys for each lock endorsed with lock number and space designation, shall be turned over to the Owner. Install keys with proper tags in the key cabinet. Establish a construction master key, and apply to locks and cylinders, except for closets, within major spaces. Locks for closets shall be shipped unlocked and the keys delivered to the Owner with the balance of the keys.
5. Acceptable Manufacturers: Yale, Corbin\Russwin, Schlage, or Equal.

D. Key Cabinet

1. Provide a wall mounted key cabinet with baked enamel interior finish and exterior prime coat with cylinder keyed to project master key system. Cabinet shall accommodate all keys in the project, plus twenty (20) percent additional.
  - a. Provide cabinet with key control system consisting of permanent key markers, temporary key markers, "out" key control tags, and cross indexing cards. Instruct Owner personnel how to use system.
  - b. Acceptable Manufacturers: Yale, Bommer, or Equal.

E. Panic Hardware

1. Heavy duty push bar exit device, U.L. labeled, with corrosive resistant construction.
2. ANSI A156.3, Grade 1.
3. Exterior trim to closely match locksets.
4. Single/active doors: mortise type.
5. Double doors: concealed vericle rod.
6. ANSI Function 08.
7. Acceptable manufacturer's: Von-Duprin, Adams Rite Manufacturing Company, Corbin/Russwin, Or Equal.

F. Closers

1. Cast iron case with seamless one-piece forged steel spring tub.
2. Heavy duty forged steel arm.
3. Non-sized fully adjustable from size 1-6.
4. Backcheck intensity and location valves.
5. Delayed action closing.
6. Full metal cover.
7. Mechanical hold open device, except at fire rated doors.
8. ANSI 156.4, Grade 1.

9. Conforms to ADA 5 lbf. maximum door opening force requirement for non-fire rated interior doors.
10. Provide mounting brackets, and fasteners required for proper attachment.
11. Acceptable manufacturers: Corbin/Russwin, LCN, Norton, Or Equal.

G. Overhead Door Holder

1. Heavy duty bronze, surface mounted with positive grip holder.
2. Track: extruded bronze.
3. Degree of opening: 85 - 110.
4. Finish: Satin Chrome Plated.
5. Acceptable manufacturers: Corbin/Russwin, Glynn-Johnson, Norton, Or Equal.

H. Door Stops and Bumpers

1. Finish: Satin chrome plated.
2. Floor mounted door stops.
  - a. Acceptable manufacturers and products: H.B. Ives 444, Hager Hardware Model 267F, Glynn-Johnson Model FB36, Or Equal.
3. Wall bumpers
  - a. Acceptable manufacturers and products: H.B. Ives Model 407, Hager Hardware Model 234W, Glynn-Johnson Model 60C, Or Equal.

I. Flush Bolts

1. U.L. listed.
2. Forged brass construction, 1/2" diameter flattened bolt tip, 12" long rod.
3. Fit standard ANSI door preparation.
4. Provide dustproof strikes.
5. Acceptable manufacturers: Glynn-Johnson, Hager Hardware, H.B. Ives, Or Equal.

J. Coordinator

1. U.L. labeled and tested for 100,000 cycles.



2. Stop mounted, provide filler strips to fully cover stop.
3. Adjustable holding power and override feature.
4. Acceptable manufacturers: Glynn-Johnson, Hager Hardware, H.B. Ives, Or Equal.

K. Kickplates

1. Stainless steel, 0.050" thick, beveled 3 sides, 8" high, width 2 inches less than door width.
2. Acceptable manufacturers: H.B. Ives, Hager Hardware, Builders Brass Works, Or Equal.

L. Silencers

1. Rubber silencers: 3 for each single door and 2 for each double doors.
2. Acceptable manufacturers and products: Glynn-Johnson Models 64 or 65, Hager Hardware Models 308D or 307D, H.B. Ives Models 20 or 21, Or Equal.

M. Thresholds

1. Extruded aluminum saddle type with stainless steel fasteners. Six inches wide or as shown on drawings.
2. Acceptable manufacturers: Pemko, National Guard Products, Incorporated, Zero International, Or Equal.

N. Door Bottom Seal

1. Extruded aluminum with neoprene seal.
2. Acceptable manufacturers and products: Pemko Model 57, Zero International Model 328 and National Guard Products, Inc. Model 96, Or Equal.

O. Weatherstripping

1. Extruded aluminum with neoprene seal.
2. U.L. Labeled.
3. Acceptable manufacturers and products: Pemko Model 294, National Guard Products, Inc. Model 190, and Zero International Model 328, Or Equal.

## **PART 3 - EXECUTION**

### **3.01 GENERAL**

#### A. Templates

1. After the hardware schedule is approved furnish to the various manufacturers, required blueprint templates for fabrication purposes. Templates shall be made available not more than ten (10) days after receipt of the approved hardware schedule.

#### B. Packaging and Marking

1. Ship hardware with proper non-corrosive fastenings for secure application. Each package of hardware shall be legibly marked indicating the part of the work for which it is intended. Markings shall correspond with the item numbers shown on the approved hardware schedule. Keys shall be tagged within each package set and plainly marked on the face of the envelope with the key control number, door designation and all identification as necessary.

### **3.02 INSTALLATION**

#### A. Install hardware in a manner which will eliminate cracks on surfaces.

#### B. Mount hardware units at heights recommended in "Recommended Locations for Builders Hardware" by BHMA, except as otherwise indicated or required to comply with governing regulations.

#### C. Install each hardware item in compliance with the manufacturer's instructions and recommendations. Do not install surface-mounted items until finishes have been completed on the substrate.

#### D. Set units level, plumb and true to line and location. Adjust and reinforce the attachment substrate as is necessary for proper installation and operation.

#### E. Drill and countersink units which are not factory-prepared for anchorage fasteners. Space fasteners and anchors in accordance with factory standards.

#### F. Cut and fit thresholds and floor covers to profile of door frames, with mitered corners and hair-line joints. Join units with concealed welds or concealed mechanical joints. Cut smooth openings for spindles, bolts and similar items, if any.

#### G. Screw thresholds to substrate with No. 10 or larger screws, of the proper type for permanent anchorage and of bronze or stainless steel which will not corrode in contact with the threshold metal.

#### H. Set thresholds in a bed of either butyl rubber sealant or polyisobutylene mastic sealant to completely fill concealed voids and exclude moisture. Do not plug drainage holes or block weeps. Remove excess sealant.

### 3.03 ADJUST AND CLEAN

- A. Adjust and check each operating item of hardware and each door to ensure proper operation or function. Lubricate moving parts as recommended by manufacturer. Replace units which cannot be adjusted to operate freely and smoothly as intended for the application.
- B. Final Adjustment
  - 1. One week prior to acceptance or occupancy make a final check and adjustment of all hardware items. Clean and re-lubricate operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices and compensate for final operation of heating and ventilating equipment.
- C. Instruct Owner personnel in proper adjustment and maintenance of hardware and hardware finishes, during the final adjustment of hardware.

### 3.04 HARDWARE SETS

- A. The door hardware sets on the Drawings indicates functional and general requirements. Items shall be quality and finish as specified. Hardware set identification refers to set numbers indicated on the Drawings. Consult Drawings for set number required.
- B. Hardware shall be as follows:

#### **Hardware Sets**

- 1. HW-1 Roll Up Overhead Doors
  - Cylinder (Provide Padlocks for Roll Up Doors)
  - Remainder of hardware by door manufacturer.
- 2. HW-2 Exterior Entrance Door (Double Doors)
  - Hinges
  - Entrance Lockset
  - Panic Hardware
  - Overhead Door Closer Holder (each leaf)
  - Flush Bolts w/Dustproof Strikes
  - Coordinator
  - Kickplate
  - Threshold
  - Door Bottom Seal
  - Weatherstripping
  - Astragal w/Weatherstripping

3. HW-3 Exterior Secondary Door (Single Door)
  - Hinges
  - Entrance Lock Set
  - Panic Hardware
  - Door Closer
  - Kickplate
  - Threshold
  - Door Bottom Seal
  - Weatherstripping
  
4. HW-4 Interior Door
  - Hinges
  - Passage Latchset
  - Kickplate
  - Silencers
  - Door Bumpers

**END OF SECTION 08710**