

**SECTION 08 7 1 00
FINISH HARDWARE**

PART 1 - GENERAL

2.01 GENERAL REQUIREMENTS

- A. Contractor is referred to the Instructions to Bidders and General Conditions, NYCHA Contracts; the Special Notice to Contractors; the Form of Proposal; the Form of Bid Bond; Division 01 - General Requirements of the Contract Specifications; the Contract Drawings and all Amendments and Addenda thereto; all of which govern the Work of this Section.

2.02 SCOPE OF WORK

2.03 THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY LABOR, MATERIALS, EQUIPMENT, SERVICES, TOOLS AND ANY OTHER INCIDENTALS NECESSARY FOR THE FOLLOWING:

- A. All related hardware as scheduled for each doors to be provided under this contract.
- B. Proximity Fob systems for apartment building entrance, electro-magnetic locking system at entrance. Note the Fob system shall be installed to be fully operational.
- C. Provide mechanical/electronic panic exit device with latch open status alarm, on all entrance doors.

2.04 RELATED WORK

- A. Section 08 11 19 Stainless Steel Entrance Doors
- B. Section 08 71 53 Electromagnetic/Mechanical Panic Bar Locking System
- C. Section 27 51 23 Intercom System
- D. Section 28 13 00 Access Control

2.05 SUBMITTALS

- A. See Division 01, Sections 01 33 00. Submissions.
- B. Hardware Schedule: Submit a hardware schedule listing all hardware used.
- C. Product cuts and data sheets on all hardware used.
- D. All manufacturer's guarantees and warranties on all hardware used.
- E. Keying Schedule: Submit a key schedule showing all key numbers and spaces to which each permits entry. Consult with NYCHA prior to submitting the final key schedule. After final approval has been received from the Authority, the schedule and the key cabinet along with key gathering envelopes containing keys for each lock endorsed with lock number and space designation shall be turned over to NYCHA.
- F. Samples: Provide samples of all door pulls, push plates, applied signage, controls, hinges, door stops, weatherstripping, kickplate material(s), closer casing material(s), saddles, and any other hardware required by the Authority in review of the Contractor's submissions list.

2.06 REQUIREMENTS AND RESTRICTIONS

- A. Where finished shape or size of members taking hardware is such as to prevent or make unsuitable the use of the types specified, suitable types shall be furnished, having as nearly as practicable the same operation and quality as the type specified.
- B. Pack each item of hardware separately, complete with all trimmings, screws, bolts, washers etc. Each item shall be clearly labeled, numbered and delivered ready for application. Provide machine bolts or screws as required. All fasteners shall be stainless steel and tamper proof.
- C. All cylinders shall be packed separately with their own keys included. Inside cylinders shall be clearly marked "control cylinder". Each cylinder and key shall be marked with its key change number.

- D. Locks shall have beveled, rounded or rabbeted faces where required. For lock stiles that are too narrow for the backsets of locks specified, furnish special backsets.
- E. Mounting of kick plates, where specified, shall be with countersunk oval head, wood or machine screws as required, spaced not over 8 inches on center. Screws for kickplates shall have finish matching the plate.
- F. Furnish cuts, illustrating locks and latches to be provided, together with description of function and operation, all in accordance with Division 1.
- G. Templates: when directed by the General Contractor, templates covering all hardware applied to shall be furnished to the hollow metal/entrance fabricator to make proper provision in their work to receive hardware.
- H. Delivery: When requested by the General Contractor, hardware required for shop application shall be delivered to factories of the fabricator at the Contractor's expense and in ample time so as not to impede progress of work.
- I. Protection: Furnish wrappings for all handles and pulls for protection of hardware until job completion.
- J. Guarantee: The Contractor shall guarantee all hardware under this Section for a period of two (2) years from date of the Certificate of Final Acceptance of the Work. The Contractor shall replace without additional cost items which prove defective due to improper materials, workmanship or installation.
- K. Hardware items designated for replacement such as existing electric strikes, mortise locks, door closers, hinges, and any previously installed electro magnetic locking system components (coils, armatures, switches and buttons) shall remain the property of the Authority and turned over to the project superintendent.

2.07 PRODUCT HANDLING

- A. Handle, store, distribute, protect and install all hardware in accordance with the manufacturer's instructions. Deliver packaged materials in original containers with seals unbroken and labels intact. Deliver assemblies completely identified and with adequate protection for storage, handling and installation.
- B. Provide secure lock-up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware so that the completion of the work will not be delayed by hardware losses, both before and after installation.

2.08 APPROVALS AND REFERENCE STANDARDS

- A. All exposed hardware shall be finished Satin Stainless Steel US 32D or as otherwise specified.
- B. Piano hinges are specified by type in accordance with Federal or ANSI A156.1 Specifications descriptive of the type required. In general, hinges of the same type shall be the product of one manufacturer and shall meet the following requirements:
- C. All hardware shall conform to the applicable requirements of the Specifications cited, and as modified herein:
 - 1. FF-H-106a, c Builders Hardware, for locks and door trim, ANSI A156.2
 - 2. FF-H-111a Builders Hardware, for shelf & miscellaneous hardware
 - 3. FF-H-116c, d Builders Hardware, for hinges ANSI A156.1
 - 4. FF-121c, d Builders Hardware, for door closers ANSI 165.4
 - 5. FF-111c Builders Hardware, for floor door stops
- D. **JOB CONDITIONS**
 - 1. The hardware supplier shall assign a competent representative acceptable to NYCHA to be at the job site each time a major shipment of finish hardware is received. Such person shall assist in checking in these shipments and shall secure a receipt covering the contents of each shipment. In addition, such person shall be made available for immediate call to the job site when, in the opinion of NYCHA, his/her presence is necessary.

2. Coordinate hardware delivery and installation with other work. Tag each item or package separately, with identification related to the final hardware schedule, and include basic installation instructions in the package. Finish hardware items of proper design for use on doors and frames of the thickness, profile, swing, security and similar requirements indicated and as necessary for proper installation and function. Deliver packaged hardware items to the proper locations for installation.
3. Furnish hardware templates to each fabricator of doors, frames and other work to be factory prepared for the installation of hardware.

PART 2 – PRODUCTS

3.01 MATERIALS

- A. Hand of door: Drawings show the swing or hand of door leafs for each typical installation. These configurations shall be followed except where noted or where field conditions prevent their installation. In such cases the Contractor shall notify the Authority in writing of such conditions prior to fabrication and installation of the doors and hardware. Furnish each item of hardware for proper installation and operation of the door swing shown. Shop drawings shall show all door swings, and shall be approved prior to fabrication and installation.
- B. Exposed surfaces of hardware shall have the following US Standard finishes except as otherwise specified:
 1. Piano Hinges shall be furnished USP (BMHA 600).
 2. Door Closers and Closer Brackets shall have USP finish (BMHA 600).
 3. Stainless Steel items specified shall be type 302 or 304 non-magnetic and shall have Satin US 32D (BMHA 630) finish.
 4. All hardware shall be furnished with proper and compatible screws finished to match the items for which they are intended. Where stainless steel hardware is used, stainless steel screws shall be furnished.
- C. All screws used for installing hardware items, glass stops, and other screws exposed to view shall have vandal resistant "pin-in-head" type heads such as: button pin-in-socket TK23 and pin-in-torx (Tanner Bolt and Nut Co., 718-434-4500) acorn style head, pin-head phillips (Tamper Proof Screw Co., 516-931-1616) Button Head, (Peerless Sales, 312-865-8870) or approved equal.
- D. Contractor shall deliver four (4) matching screw wrenches of each type head to the Project Superintendent. All screws shall be installed with "Lock-Tite" or similar thread bedding compound to inhibit movement.
- E. Fasteners: 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.
- F. Stainless steel items specified shall be type 302 non-magnetic and shall have Satin US 32D (BHMA 630) finish unless otherwise specified. All hardware shall be furnished with proper and compatible screws finished to match the items for which they are intended. Where stainless steel hardware is used, stainless steel screws shall be furnished.

3.02 THE HARDWARE USED IN THE EXECUTION OF THIS CONTRACT SHALL BE AS FOLLOWS:

3.03 SET # 1 – ENTRANCE VESTIBULE DOOR

3.04 DOOR SHALL RECEIVE:

3.05 ELECTROMAGNETIC/MECHANICAL PANIC BAR LOCKING SYSTEM (EMPLS): AS SPECIFIED IN SECTION 087153 AND AS SHOWN ON THE DRAWINGS.

3.06 PIVOT HINGES:

- A. Provide electrified steel pivot hinges at door, secured with tamper-proof screws.

3.07 VANDAL RESISTANT, HIGH SECURITY DOOR CLOSER:

- A. High security, parallel arm, designated heavy-duty surface mounted door closer shall feature:

1. Stainless steel case, minimum 14-gauge.
 2. Stainless steel angle mounting bracket, minimum 16-gauge.
 3. Stainless steel arms, min 1 ½" X ½". With caged, sealed, ball bearing pivots.
 4. Torx hex-lobular drive security pin fasteners wherever exposed. Provide project Superintendent with three (3) fastener driver tools.
 5. Cast iron door check cylinder similar to LCN 4111 or equal and adjustable, ADA/ UFAS compliant, delayed closing feature.
 6. One year warranty against defects and vandalism on parts and labor, repair or replacement, of defective parts and vandalism, except against vandalism by cutting or destruction with power tools, torches, or pry bars.
 7. High security, parallel arm, surface mounted door closer shall be series EK-1 by Tycoon Architectural Products (718) 729 2308, or equal.
- 3.08 KICKPLATES: 20-GAUGE STAINLESS STEEL KICKPLATES, BOTH SIDES OF DOOR, SIZE AS SHOWN ON DRAWINGS. PATTERN SHALL BE SHEFFIELD WITH #4 SATIN FINISH, FINISH BY ARDMORE, OR RIGIDIZED METALS, OR EQUAL, AND FASTENERS SHALL BE NO.6 STAINLESS STEEL TRUSS SPANNER HEAD TAMPER-PROOF SCREWS. SCREWS SHALL BE SPACED NOT MORE THAN 8" ON CENTER, WITH EXPOSED FINISH TO MATCH THE PLATE.**
- 3.09 WEATHERSTRIPPING: APPLIED HEAVY-DUTY SILL PROTECTION AUTOMATIC DOOR BUTTON, ZERO INTERNATIONAL, INC., NO. 354 OR EQUAL.**
- 3.10 STAINLESS STEEL SADDLES: FULLY COMPLIANT WITH ADA/UFAS WHEELCHAIR ACCESSIBILITY REQUIREMENTS, WITH 1/2 INCH VERTICAL RISE MAX., 6" WIDE OR BY FULL WIDTH OF JAMBS OR AS SHOWN ON DRAWINGS, SLIP-RESISTANT ABRASIVE STAINLESS STEEL WALKING SURFACE, MODEL NO. 612SS X SIA , AS MANUFACTURED NATIONAL GUARD PRODUCTS, TEL.: (901) 525-7847 DISTRIBUTED BY PAUL J. POLKE COMPANY OR EQUAL.**
- 3.11 DOOR STOPS: WALL MOUNTED, BUMPER TYPE SHALL BE FEDERAL SPEC. # FFH-011 C TYPE (132E) AND INSTALLED OPPOSITE DOOR PULL.**
- 3.12 THE FOLLOWING ITEMS ARE IN ADDITION TO THE ABOVE:**
- A. Intercom system Section 27 51 23.
 - B. Fob system Section 28 13 00.
- 3.13 LOCKSETS: EXIT DEVICE/MAGLATCH SYSTEM, MODEL # 2766 HIGH SHEAR DORMAKABA, 630 FINISH. DESCRIBED IN SECTION 087153 EMPLS-RM. OR APPROVED EQUAL. RE-USE EXISTING KEY CYLINDERS AT EACH BUILDING.**
- 3.14 POWER SUPPLY: MODEL # PS112, SECURITECH OR APPROVED EQUAL. DESCRIBED IN SECTION 26 00 00 GENERAL PROVISIONS FOR ELECTRICAL WORK.**
- 3.15 SET # 2 – SECONDARY VESTIBULE DOOR**
- 3.16 DOOR SHALL RECEIVE:**
- 3.17 PIVOT HINGES:**
- A. Provide electrified steel pivot hinges at door, secured with tamper-proof screws.
- 3.18 VANDAL RESISTANT, HIGH SECURITY DOOR CLOSER:**
- A. High security, parallel arm, designated heavy-duty surface mounted door closer shall feature:
 1. Stainless steel case, minimum 14-gauge.
 2. Stainless steel angle mounting bracket, minimum 16-gauge.
 3. Stainless steel arms, min 1 ½" X ½". With caged, sealed, ball bearing pivots.
 4. Torx hex-lobular drive security pin fasteners wherever exposed. Provide project Superintendent with three (3) fastener driver tools.
 5. Cast iron door check cylinder similar to LCN 4111 or equal and adjustable, ADA/ UFAS compliant, delayed closing feature.

6. One year warrantee against defects and vandalism on parts and labor, repair or replacement, of defective parts and vandalism, except against vandalism by cutting or destruction with power tools, torches, or pry bars.
 - a. High security, parallel arm, surface mounted door closer shall be series EK-1 by Tycoon Architectural Products (718) 729 2308, or equal.
- 3.19 KICKPLATES: 20-GAUGE STAINLESS STEEL KICKPLATES, BOTH SIDES OF DOOR, SIZE AS SHOWN ON DRAWINGS. PATTERN SHALL BE SHEFFIELD WITH #4 SATIN FINISH, FINISH BY ARDMORE, OR RIGIDIZED METALS, OR EQUAL, AND FASTENERS SHALL BE NO.6 STAINLESS STEEL TRUSS SPANNER HEAD TAMPER-PROOF SCREWS. SCREWS SHALL BE SPACED NOT MORE THAN 8" ON CENTER, WITH EXPOSED FINISH TO MATCH THE PLATE.**
- 3.20 WEATHERSTRIPPING: APPLIED HEAVY-DUTY SILL PROTECTION AUTOMATIC DOOR BUTTON, ZERO INTERNATIONAL, INC., NO. 354 OR EQUAL.**
- 3.21 STAINLESS STEEL SADDLES: FULLY COMPLIANT WITH ADA/UFAS WHEELCHAIR ACCESSIBILITY REQUIREMENTS, WITH 1/2 INCH VERTICAL RISE MAX., 6" WIDE OR BY FULL WIDTH OF JAMBS OR AS SHOWN ON DRAWINGS, SLIP-RESISTANT ABRASIVE STAINLESS STEEL WALKING SURFACE, MODEL NO. 612SS X SIA , AS MANUFACTURED NATIONAL GUARD PRODUCTS, TEL.: (901) 525-7847 DISTRIBUTED BY PAUL J. POLKE COMPANY OR EQUAL.**
- 3.22 DOOR STOPS: WALL MOUNTED, BUMPER TYPE SHALL BE FEDERAL SPEC. # FFH-011 C TYPE (132E) AND INSTALLED OPPOSITE DOOR PULL.**
- 3.23 SET # 3 – REAR ACCESS DOOR**
- 3.24 DOOR SHALL RECEIVE:**
- 3.25 ELECTROMAGNETIC/MECHANICAL PANIC BAR LOCKING SYSTEM (EMPLS): AS SPECIFIED IN SECTION 087153 AND AS SHOWN ON THE DRAWINGS.**
- 3.26 PIVOT HINGES:**
 - A. Provide electrified steel pivot hinges at door, secured with tamper-proof screws.
- 3.27 VANDAL RESISTANT, HIGH SECURITY DOOR CLOSER:**
 - A. High security, parallel arm, designated heavy-duty surface mounted door closer shall feature:
 1. Stainless steel case, minimum 14-gauge.
 2. Stainless steel angle mounting bracket, minimum 16-gauge.
 3. Stainless steel arms, min 1 1/2" X 1/2". With caged, sealed, ball bearing pivots.
 4. Torx hex-lobular drive security pin fasteners wherever exposed. Provide project Superintendent with three (3) fastener driver tools.
 5. Cast iron door check cylinder similar to LCN 4111 or equal and adjustable, ADA/ UFAS compliant, delayed closing feature.
 6. One year warrantee against defects and vandalism on parts and labor, repair or replacement, of defective parts and vandalism, except against vandalism by cutting or destruction with power tools, torches, or pry bars.
 7. High security, parallel arm, surface mounted door closer shall be series EK-1 by Tycoon Architectural Products (718) 729 2308, or equal.

- 3.28 KICKPLATES: 20-GAUGE STAINLESS STEEL KICKPLATES, BOTH SIDES OF DOOR, SIZE AS SHOWN ON DRAWINGS. PATTERN SHALL BE SHEFFIELD WITH #4 SATIN FINISH, FINISH BY ARDMORE, OR RIGIDIZED METALS, OR EQUAL, AND FASTENERS SHALL BE NO.6 STAINLESS STEEL TRUSS SPANNER HEAD TAMPER-PROOF SCREWS. SCREWS SHALL BE SPACED NOT MORE THAN 8" ON CENTER, WITH EXPOSED FINISH TO MATCH THE PLATE.**
- 3.29 WEATHERSTRIPPING: APPLIED HEAVY-DUTY SILL PROTECTION AUTOMATIC DOOR BUTTON, ZERO INTERNATIONAL, INC., NO. 354 OR EQUAL.**
- 3.30 STAINLESS STEEL SADDLES: FULLY COMPLIANT WITH ADA/UFAS WHEELCHAIR ACCESSIBILITY REQUIREMENTS, WITH 1/2 INCH VERTICAL RISE MAX., 6" WIDE OR BY FULL WIDTH OF JAMBS OR AS SHOWN ON DRAWINGS, SLIP-RESISTANT ABRASIVE STAINLESS STEEL WALKING SURFACE, MODEL NO. 612SS X SIA , AS MANUFACTURED NATIONAL GUARD PRODUCTS, TEL.: (901) 525-7847 DISTRIBUTED BY PAUL J. POLKE COMPANY OR EQUAL.**
- 3.31 DOOR STOPS: WALL MOUNTED, BUMPER TYPE SHALL BE FEDERAL SPEC. # FFH-011 C TYPE (132E) AND INSTALLED OPPOSITE DOOR PULL.**
- 3.32 THE FOLLOWING ITEMS ARE IN ADDITION TO THE ABOVE:**
- A. Intercom system Section 27 51 23.
 - B. Fob system Section 28 13 00.
- 3.33 LOCKSETS: EXIT DEVICE/MAGLATCH SYSTEM, MODEL # 2766 HIGH SHEAR DORMAKABA, 630 FINISH. DESCRIBED IN SECTION 087153 EMPLS-RM. OR APPROVED EQUAL. RE-USE EXISTING KEY CYLINDERS AT EACH BUILDING.**
- 3.34 POWER SUPPLY: MODEL # PS112, SECURITECH OR APPROVED EQUAL. DESCRIBED IN SECTION 26 00 00 GENERAL PROVISIONS FOR ELECTRICAL WORK.**
- 3.35 KEYS AND KEYING**
- 3.36 EXSTING KEY CYLINDERS SHALL BE RE-INSTALLED AT EACH ENTRANCE. RESIDENTS SHALL BE ABLE TO USE THEIR EXISTING KEYS. FINAL COMPLETION SHALL VERIFY THAT THE ENTRANCES ARE OPERABLE BOTH BY KEYS AND THE NEW PROXIMITY READERS.**

PART 3 - EXECUTION

4.01 GENERAL

- A. Approval: As outlined in Section 01 33 00 Submissions the Contractor shall submit to NYCHA for written approval copies of the hardware schedule, submissions list, samples list, listing of the different items of builder's hardware and catalog cuts of each item.
- B. Templates: As soon as the hardware schedule is approved the hardware supplier shall furnish to the various fabricators required templates for fabrication purposes. Templates shall be made available not more than ten (10) days after receipt of the approved hardware schedule.
- C. Packaging and Marketing: All hardware shall be shipped with proper 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.
- D. Delivery: Delivery shall be made to the project site to the attention of the Contractor. Where delivery of special hardware is required at any fabricator's plant, the hardware supplier shall make such deliver.

4.02 INSTALLATION

- A. Hardware shall be set at the following heights, unless specifically indicated on the drawings. Where hardware heights are not indicated, the Contractor shall obtain approval in writing of the installation height prior to installation.
- B. Lever handles: as shown on drawings.
- C. Ingress proximity reader shall be set at 42" above finished floor.
- D. Electromagnetic/Mechanical Panic Bar Locking System (EMPLS-RM) shall be set at 38" +/- (a.f.f.) as shown on drawings.
- E. Key fob proximity reader shall be set at 48" +/- (a.f.f.) at entrance frame at front entrance, as shown on drawings.
- F. Mechanical panic exit devices at stairhall exit doors shall be set at same height, between 38" +/- (a.f.f.).
- G. All overhead door closers shall be mounted on interior side of out-swinging doors.

4.03 ADJUST AND CLEAN

- A. Adjust and check each operating item of hardware and each door to ensure proper operation and function of every unit. Lubricate moving parts as necessary with type lubrication recommended by the manufacturer. Replace units which cannot be adjusted. All operation(s) must be to the satisfaction of the Authority prior to final acceptance.
- B. Wherever hardware installation is made more than one (1) month prior to acceptance or occupancy of a space or area, return the work during the week prior to acceptance, make a final check, and adjust all hardware items in such space or area. Adjust door control devices as necessary.
- C. Instruct NYCHA personnel in proper adjustment and maintenance of hardware and hardware finished prior to final acceptance.

END OF SECTION 08 7 1 00