

SECTION 087100**FINISH HARDWARE****PART 1 GENERAL****1.1 GENERAL REQUIREMENTS**

- A. Work of this Section, as shown or specified, shall be in accordance with the Contract Documents.

1.2 SECTION INCLUDES

- A. Work of this Section includes all labor, materials, equipment and services necessary to furnish all the finish hardware as shown on the drawings and/or specified herein.

1.3 RELATED SECTIONS

- A. Section 062000 "Carpentry" for installation of finish hardware.
- B. Steel Doors and Frames - Section 081113.
- C. Aluminum Entrances and Storefronts - Section 084313.
- D. Painting and Finishing – Section 099100.

1.4 QUALITY ASSURANCE

- A. Hardware shall be suitable and adapted for its required use and shall fit its designated location. Should any hardware as shown, specified or required fail to meet the intended requirements or require modification to suit or fit the designated location, determine the correction or modification necessary and notify the Commissioner in ample time to avoid delay in the manufacture and delivery of hardware.
- B. For fire rated openings provide hardware complying with NFPA Standard No. 80. requirements of authorities having jurisdiction.
- C. Barrier Free Requirements: Maximum pressure applied to the latch area to open exterior doors shall not exceed fifteen (15) pounds. Interior doors which have a self-closing feature shall require pressure not to exceed five (5) pounds.

1.5 SUBMITTALS

- A. Before any finish hardware is ordered or purchased, submit catalog cuts and a complete Hardware Schedule of Finish Hardware. Each item listed in the Hardware Schedule shall be identifiable with respect to manufacture, brand, catalog number, material, and finish.
- B. Where submission differs from Schedule shown on Dwg. No. A-920, use different color or other means of identification to bring change to the attention of the Commissioner.
- C. Samples: Submit samples as requested by Commissioner. Do not proceed with installation until samples have been approved. Approved samples may be installed in the work after substantial completion of work. Samples shall include one (1) each of the following samples:

1. Hinge (each type)
2. Intermediate Pivot
3. Surface Closer
4. Lockset (office function)
5. Floor Stop

1.6 PRODUCT HANDLING

- A. Pack finish hardware in approved manufacturer's containers, complete with trimmings, bolts, screws, washers, etc., as required for application and securement. Each container shall bear a suitable label which shall state the quantity and kind of contents of said container, as well as identifying marks relating to the approved Hardware Schedule and its location in the project.
- B. Knobs, handles, pulls and other items of finish hardware with easily damaged finishes shall be individually wrapped before placing in containers and with sufficient sheet cloth or cotton-backed paper which shall be adequately tied with heavy strings; all as necessary to protect the finishes.
- C. Finish hardware shall be delivered, as directed, to the building site or the factories of the various fabricators of metal work to which such hardware is to be applied. Deliver hardware in the order required and in ample time to permit application at the building, or fabricators' shops, within the time required for the completion of the building.

1.7 JOB CONDITIONS

- A. Field Service: The hardware supplier shall assign a competent representative, acceptable to the Commissioner, to be at the jobsite each time a major shipment of finish hardware is received. Such representative shall assist in "checking in" these shipments and shall secure a receipt covering the contents of each shipment. In addition, such representative shall be available for immediate call to the jobsite when, in the opinion of the Commissioner, his presence is necessary.
- B. Templates: Promptly following approval of the Hardware Schedule by the Commissioner, furnish and deliver template information, to the fabricators, of items to which finish hardware is to be applied.
 1. Such deliveries shall be made in ample time to avoid delays in such work of said fabricators. Provide drawings, schedules and detailed information to other trades as necessary for them to accommodate and prepare their work to receive the finish hardware.

C. Cooperation and Coordination

1. Cooperate and coordinate work with that of other trades supplying materials or performing work in contact with, connecting to, underlying, or overlaying the work of this Section.
2. Provide complete data of requirements for work of this Section to those other trades whose work is affected by or dependent upon the work of this Section.
3. Furnish all items to be built into other work in ample time to avoid delaying the progress of such work.
4. Examine all drawings covering the work of this Section and refer to all other drawings, including mechanical and electrical drawings, which may affect the work of this Section or require coordination by this trade.

PART 2 PRODUCTS**2.1 GENERAL**

- A. Requirements for design, grade, function, finish, size and other distinctive qualities of each type of finish hardware are indicated herein. Products are identified by using appropriate hardware designation numbers.
- B. Manufacturers are listed for each hardware type required. Provide either the product designated, or approved equal.
- C. Proprietary Products: References to specific proprietary products are used to establish minimum standards of utility and quality. Other materials may be considered by the Commissioner in accordance with the provisions of these specifications.
- D. Notwithstanding anything to the contrary in this specification or the drawings, the finish hardware shall conform to the requirements of governmental authorities having jurisdiction and such requirements shall be followed as if specifically set forth in this specification.
- E. Finish hardware shall conform to the applicable requirements of the American Insurance Association, and the National Board of Fire Underwriters' Laboratories, Inc., and other local authorities having jurisdiction, and each such item shall bear a label or mark of the Underwriters' Laboratories, Inc., indicating its conformity with such requirements for use in connection with its specified location.
- F. Finish hardware shall be uniform in color and finish and free from imperfections affecting its appearance, function, operation and serviceability. Such hardware shall be suited and adapted to its required use and shall fit its respective location.
- G. Where the finished shape or size of members receiving finish hardware are such as to prevent or render unsuitable the use of the specific types or sizes of such hardware, suitable types or sizes shall be furnished, having as nearly as practicable the same function, operation and quality as the specified hardware.
- H. Bolts, screws and other fastenings required for the application of the finished hardware shall be of size and type to fit requirements and shall be of the same material and finish as the exposed parts of such hardware which they adjoin. Exposed screws and bolts shall have countersunk oval heads and bolts shall be provided with cap nuts. Countersunk part of screw and bolt holes shall be finished smoothly without sharp

edges and form a firm seal for such screw and bolt heads. Full threaded wood screws shall be furnished for all wood applications. No thru bolts will be allowed.

2.2 SPECIFIC ITEMS

A. Hinges

1. Minimum of three (3) hinges per door leaf up to 7'-6" high. Provide one additional hinge per 2'-6" or fraction thereof.
2. Hinges shall be of types, sizes and materials as required to suit door weights thicknesses and fire ratings.
3. Hinge sizes shall be detailed so that the least amount of projection shall be visible from the frame.
4. Unless otherwise specified hinges shall have concealed ball-bearings (combination anti-friction or oil impregnated) and three (3) knuckles.
 - a. Standard doors shall have non-rising pins.
 - b. Doors exposed to the public, and other secure areas, as determined by the City of New York, shall have non-removable pins.

B. Pivots

1. Provide quantities and types of pivots (offset, intermediate and center) as required to suit door sizes and weights.
2. Pivot sets (offset and center) shall consist of top and bottom pivots, unless otherwise indicated.
3. Provide a top pivot for each floor closer unless otherwise indicated.

C. Closers

1. Unless otherwise indicated, closers shall not be visible on the public side of doors. Closers opening into public spaces shall be provided with parallel arms and brackets to suit.
2. Closers shall be sized in accordance with the accepted manufacturer's standards to suit height, width, weight of door and draft conditions.
3. Provide a top pivot for each floor closer.
4. Provide weather sealing compound for each exterior floor closer.

D. Locking and Latching Devices

1. Mechanical: Provide types, functions, as specified. Coordinate with City of New Yorks keying requirements.

E. Keys and Keying

1. Coordinate new keying requirements with requirements of building standard keying system.

2. Provide three (3) keys for each differently keyed lock. Unless otherwise indicated, locks shall be keyed differently.
 3. Provide twenty five (25) key blanks.
 4. Provide three (3) Master Keys.
 5. Provide key control system, including key cabinet with capacity to store 150% of keys furnished.
 6. Final keying requirements will be determined by the City of New York.
- F. Stops: Provide stops to limit the degree of opening, helping to prevent damage to adjacent walls, columns, equipment, the door or its hardware.
1. Overhead Stops
 - a. Size overhead stops to suit door width, height, weight and draft condition.
 - b. Overhead stops shall have extruded Commissionerural bronze tracks with a built-in shock absorber. The arm shall be hard-drawn brass.
 2. Floor Stops: All stops to be fastened to concrete shall use expansion shields and machine screws.
- G. Pushes and Pulls: Provide concealed fasteners where practical. Where exposed fasteners are required provide flush type finished to match push or pull.
- H. Flush Bolts: Provide top and bottom extension type flush bolts, mounted twelve (12) inches and seventy-two (72) inches respectively from the bottom of each door, where scheduled. Provide each bottom flush bolt with a dustproof strike.
- I. Silencers: Provide silencers for all non-gasketed and non-weatherstripped frames. Provide three (3) for each single swing door and two (2) for each pair of doors.

PART 3 EXECUTION

3.1 GENERAL

- A. Make periodic checks during construction in order to ascertain that the finish hardware furnished has been installed correctly. After completion of all construction work, adjust finish hardware to work properly; test all keys and adjust as required for smooth, free operation.

3.2 HARDWARE SETS

- A. See Dwg. No. A-920 for hardware schedule.

END OF SECTION

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