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This MANU-SPEC® utilizes the Construction Specifications Institute (CSI) *Project Resource Manual* (PRM), including *MasterFormat*™, *SectionFormat*™ and *PageFormat*™. A MANU-SPEC is a manufacturer-specific proprietary product specification using the proprietary method of specifying applicable to project specifications and master guide specifications. Optional text is indicated by brackets []; delete optional text in final copy of specification. Specifier Notes typically precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate symbols typically are used in Specifier Notes; symbols are not used in specification text. Metric conversion, where used, is soft metric conversion.

This MANU-SPEC specifies locking hardware. These products are manufactured by Hager Companies. Revise MANU-SPEC section number and title below to suit project requirements, specification practices and section content. Refer to CSI *MasterFormat* for other section numbers and titles.

**SECTION 08 71 00
DOOR HARDWARE**

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Locking Hardware:
 - a. Cylindrical locks.
 - b. Mortise locks.
 - c. Deadbolts.
 - d. Tubular locks.
 - e. Surface bolts.
 - f. Flush bolts.
 - g. Dustproof strikes.
 - h. Pocket door privacy latches.

Specifier Note: Revise paragraph below to suit project requirements. Add section numbers and titles in accordance with CSI *MasterFormat* and specifier's practice.

B. Related Sections:

1. Section [01 33 00 - Submittal Procedures] [_____].
2. Section [01 45 00 - Quality Control] [_____].
3. Section [01 78 00 - Closeout Submittals] [_____].
4. Section [08 11 00 - Metal Doors and Frames] [_____].
5. Section [08 11 16 - Aluminum Doors and Frames] [_____].
6. Section [08 14 16 - Flush Wood Doors] [_____].

Specifier Note: Article below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s)



referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract or Division 01 References Section may establish the edition date of standards. This article does not require compliance with standard, but is merely a listing of references used. Article below should list only those industry standards referenced in this section. Retain only those reference standards to be used within the text of this Section. Add and delete as required for specific project.

1.02 REFERENCES

- A. American National Standards Institute/International Code Council (ANSI/ICC):
 - 1. ANSI/ICC A117.1 Standard for Accessible and Usable Buildings and Facilities.
- B. American National Standards Institute/Builders Hardware Manufacturers Association (ANSI/BHMA):
 - 1. ANSI/BHMA A156.2 Bored and Preassembled Locks and Latches.
 - 2. ANSI/BHMA A156.5 Auxiliary Locks and Associated Products.
 - 3. ANSI/BHMA A156.13 Mortise Locks and Latches.
 - 4. ANSI/BHMA A156.14 Sliding and Folding Door Hardware.
 - 5. ANSI/BHMA A156.16 Auxiliary Hardware.
 - 6. ANSI/BHMA A156.18 Materials and Finishes.
 - 7. ANSI/BHMA A250.13 Testing and Rating of Severe Windstorm Resistant Components for Swinging Door Assemblies.
- C. Builders Hardware Manufacturers Association (BHMA):
 - 1. COMPLETE SET - HISTORICAL REFERENCE A115 Specifications for Steel Door and Frame Preparation for Hardware DOCUMENT (A115.1 - A115.18).
- D. Underwriters Laboratories, Inc. (UL):
 - 1. UL/ULC Listed for all functions up to 3 hours for 'A' label single doors.
 - 2. UL10B Neutral Pressure Rated.
 - 3. UL10C/UBC 7-2 Positive Pressure Rated.

Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor before, during or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Conditions of the Contract and Division 01 Submittal Procedures Section.

1.03 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 01 Submittal Procedures.
- B. Product Data: Submit manufacturer's complete product literature for specified hardware items, detailed installation diagrams and instructions, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
 - 4. Manufacturer's SPEC-DATA® product sheet.
- C. Samples:
 - 1. Submit samples upon request.
 - 2. Identify each sample by label indicating applicable specification paragraph number, brand name and number, finish and hardware package number.
 - 3. After approval, samples will be returned for incorporation into work.
- D. Templates: Submit templates detailing installation procedures, including layout, dimensions and placement of hardware.
- E. Quality Assurance: Test Reports: Submit certified test reports showing compliance with ANSI/BHMA A250.13.
- F. Closeout Submittals: Submit the following:
 - 1. Warranty: Manufacturer's standard warranty document executed by authorized company official. Manufacturer's

warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.

1.04 QUALITY ASSURANCE

- A. Qualifications: Installer experienced in performing work of this section who has specialized in installation of work similar to that required for this project.

1.05 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 01 Product Requirements.
- B. Ordering: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
- C. Delivery, Storage and Protection:
 - 1. Deliver, store and handle in accordance with Section [01 61 00 - Common Product Requirements] [_____].
 - 2. Deliver, store and handle materials in accordance with manufacturer's written instructions.
 - 3. Deliver in original packaging with labels and identification intact.
 - 4. Ship hardware items in lots coordinated with openings, as numbered in door schedule.
 - 5. Inspect hardware items upon delivery to ensure that specified products have been received.
 - 6. Store hardware items in secure, dry location, protected from weather until ready for installation.
- D. Waste Management and Disposal:

Specifier Note: The disposal of packaging waste into landfill site demonstrates an inefficient use of natural resources and consumes valuable landfill space.

- 1. Separate waste materials for [Reuse] [And] [Recycling] [_____] in accordance with Section [01 74 19 - Construction Waste Management and Disposal] [_____].
- 2. Remove from site and dispose of packaging materials at appropriate recycling facilities.
- 3. Collect and separate for disposal [Paper] [Plastic] [Polystyrene] [Corrugated cardboard] [_____] packaging material [In appropriate onsite bins] [_____] for recycling.

1.06 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

Specifier Note: Coordinate article below with Conditions of the Contract and with Division 01 Closeout Submittals (Warranty) Section.

1.07 WARRANTY

- A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.
- B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents. Manufacturer's standard warranty: one calendar year from date of delivery to Project.

PART 2 PRODUCTS

Specifier Note: Retain article below for proprietary method specification. Add product attributes, performance characteristics, material standards, and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

2.01 HAGER LOCKING HARDWARE

- A. Manufacturer: Hager Companies.
 - 1. Contact: 139 Victor St., St. Louis, MO 63104; Telephone: (800) 325-9995, (314) 772-4400; Fax: (800) 782-0149; E-mail: webmaster@hagerco.com; website: www.hagerco.com.
- B. Proprietary Products/Systems: Hager Locking Hardware.

Specifier Note: Repeat the following article when more than one type of cylinder lock is required for project. Refer to Hager Companies door hardware catalog when selecting and specifying cylinder locks.

1. Cylindrical Locks:
 - a. Applicable Standard: ANSI/BHMA A156.2.
 - b. Backset: [2 3/4 inches (70 mm)] [2 3/8 inches (60 mm)] [_____].
 - c. Door Thickness: [1 3/8 inches (35 mm)] [1 3/4 inches (45 mm)] [_____].
 - d. Handles: [Knob] [Lever] type, [Both sides] [_____].
 - e. Latchbolts: 1/2 inch (12.7 mm) throw, stainless steel.
 - f. Strikes: 1 1/4 inch x 4 7/8 inch (32 x 124 mm) strike.
 - g. Lock Chassis: Heavy gauge steel zinc dichromated for corrosion resistance.
 - h. Faceplates: 2 1/4 inch x 1 1/8 inch (57 x 29 mm), material [_____].
 - i. Trim:
 - 1) Material:
 - a) Levers: Wrought brass.
 - b) Knobs: Stainless steel.
 - 2) Roses: [Both sides] [_____], material [_____].
 - j. Keys: [Two] [_____] brass keys per lock.
 - k. Cylinders: Brass 6-pin, [Keyed different] [C Keyway] [Other keying options {_____}].

Specifier Note: Refer to Hager Companies product catalog for product finish designations and availability per series selection. BHMA finish designations are available on the Hager Companies website.

- l. Finish: To ANSI/BHMA A156.18, BHMA [_____].

Specifier Note: Repeat the following article when more than one type of mortise lock is required for project. Refer to Hager Companies door hardware catalog when selecting and specifying mortise locks.

2. Mortise Locks: Grade 1 - [Sectional] [Escutcheon] Extra Heavy Duty Commercial, Industrial, Institutional.

Specifier Note: Mortise lock functions are related to their end use or type. Hager Companies lists mortise lock functions as Entry, Classroom, Storeroom, Office, Classroom Security, Storeroom with Deadbolt, Privacy, Passage, Single Dummy, Double Dummy, Deadbolt / Cylinder, Deadbolt / Cylinder X Thumbturn, Deadbolt / Double Cylinder, and Deadbolt / Classroom. Review Hager Companies catalog information and specify the locks' function to suit project requirements.

- a. Function: [_____].
- b. Applicable Standard: ANSI/BHMA A156.13, ANSI/ICC A117.1.
- c. Backset: 2 3/4 inches (70 mm), only.
- d. Door Thickness:
 - 1) Steel door [1 3/8 inches (35 mm)] [_____].
 - 2) Wood door: [1 3/4 inches (45 mm)] [_____].
- e. Armor Front:
 - 1) Standard: 1 1/4 inches x 8 inches x 7/32 inches (32 x 203 x 5 mm).
 - 2) Optional: 1 1/16 inches x 4 inches x 7/32 inches (27 x 102 x 5 mm).
- f. Latchbolts: 3/4 inch (19 mm) throw, with anti-friction tongue, stainless steel.
- g. Deadbolt: 1 inch (25 mm) throw, stainless steel.
- h. Strikes: Standard 1 1/4 inches x 4 7/8 inches (32 x 124 mm), lip 1 3/16 inches (30 mm).
- i. Lock Case: 4 5/16 inches x 6 inches x 1 inch (110 x 152 x 25 mm).
- j. Trim: Exposed:

- 1) Material: [Forged brass] [Cast stainless steel] [Cast zinc].

Specifier Note: Specify rose with Grade 1 Sectional mortise locks. Specify escutcheons with Grade 1 Escutcheon mortise locks.

- 2) Rose Diameter: 2 7/16 inches (62 mm), positive friction attachment.
- 3) Escutcheon: 1 15/16 inches x 8 inches (50 x 203 mm).
- k. Fasteners: Through-bolted trim concealed under [rose] [escutcheon].
- l. Keys: [Two] [_____] brass keys per lock.

Specifier Note: Other keying options are available. Refer to Hager Companies literature and specify to suit project requirements.

- m. Cylinders:

Specifier Note: Specify the following article with Grade 1 Sectional mortise locks; select and specify keyway to suit project requirements.

- 1) Brass 6-pin, [Keyed differently] [C Keyway] [Other keying options [_____]].

Specifier Note: Specify the following with Grade 1 Escutcheon mortise locks; select and specify core to suit project requirements.

- 2) [Standard core] [Interchangeable core] [Rim cylinder].

Specifier Note: Refer to Hager Companies product catalog for product finish designations. BHMA finish designations are available on the Hager Companies website. Other finishes include US3, US4, US10, US10B, US26, US26D, US32D.

- n. Finish:
 - 1) To ANSI/BHMA A156.18, BHMA [_____] .
 - 2) Options: [Tactile knurling] [_____] .
- o. Acceptable Material: Hager Companies mortise lock, Item Number [3800 Grade 1 Sectional] [3800 Grade 1 Escutcheon].

Specifier Note: Repeat the following article when more than one type of deadbolt is required for project. Refer to Hager Companies door hardware catalog when selecting and specifying deadbolts.

- 3. Deadbolts:
 - a. Applicable Standard: ANSI/BHMA A156.5.
 - b. Backset: [2 3/4 inches (70 mm)] [2 3/8 inches (60 mm)] [_____] .
 - c. Door Thickness: [1 3/8 inches (35 mm)] [1 3/4 inches (45 mm)] [_____] .
 - d. Latchbolts: 1 inch (25.4 mm) throw, brass with 2 1/4 inch x 1 1/8 inch (57 x 29 mm) square corner.
 - e. Strikes: Square corner 1 1/8 inches x 2 3/4 inches (29 x 70 mm) with dustbox.
 - f. Mechanism: Steel zinc plated and dichromated.
 - g. Trim: [Wrought Brass] [Stainless Steel] [Brass] [Bronze] [_____] .
 - h. Keys: [Two] [_____] brass keys per lock.
 - i. Cylinders: Brass 6-pin, [Keyed different] [C Keyway] [Other keying options {_____]].

Specifier Note: Refer to Hager Companies product catalog for product finish designations. BHMA finish designations are available on the Hager Companies website.

- j. Finish: To ANSI/BHMA A156.18, BHMA [_____] .

Specifier Note: Repeat the following article when more than one type of tubular lock is required for project. Refer to Hager Companies door hardware catalog when selecting and specifying tubular locks.

4. Tubular Locks:

- a. Applicable Standard: ANSI/BHMA A156.2.
- b. Backset: [2 3/4 inches (70 mm)] [2 3/8 inches (60 mm)] [_____].
- c. Door Thickness: [1 3/8 inches (35 mm)] [1 3/4 inches (45 mm)] [_____].
- d. Handles: Lever type, [Both sides] [_____].
- e. Latchbolts: 1/2 inch (12.7 mm) throw, stainless steel.
- f. Strikes: [1 1/4 inches x 4 7/8 inches (32 x 124 mm)] ["T" strike 1 1/8 inches x 2 3/4 inches (29 x 70 mm)] [_____].
- g. Lock Chassis: Heavy gauge steel zinc dichromated for corrosion resistance.
- h. Faceplates: 2 1/4 inches x 1 inch (57 x 25.4 mm), stainless steel.
- i. Trim: Exposed, [Wrought Brass] [Bronze] [_____], lever zinc based, plated to match BHMA symbols.
 - 1) Material: [Wrought Brass] [Bronze] [_____].
 - 2) Rose Diameter: 3 inches (76 mm).
- j. Keys: [Two] [_____] brass keys per lock.
- k. Cylinders: Brass 6-pin, [Keyed different] [C Keyway] [Other keying options {_____}].

Specifier Note: Refer to Hager Companies product catalog for product finish designations. BHMA finish designations are available on the Hager Companies website.

- l. Finish: To ANSI/BHMA A156.18, BHMA [_____].

Specifier Note: Repeat the following article when more than one type of surface bolt is required for project. Refer to Hager Companies door hardware catalog when selecting and specifying surface bolts.

5. Surface Bolt:

Specifier Note: Select or delete the following sentences to suit chosen hardware.

- a. Applicable Standard: ANSI/BHMA A156.16.
- b. Material: [Steel] [Brass] [_____].
- c. Bolt Length: [6 inches (152 mm)] [8 inches (203 mm)] [12 inches (305 mm)] [_____].
- d. Bolt Throw: [9/16 inch (14.3 mm)] [15/16 inch (23.8 mm)] [1 inch (25.4 mm)] [_____].
- e. Surface Bolt Projection: [11/16 inch (17.5 mm)] [_____].
- f. Strikes: [Universal] [And] [Angle] [And] [Mortise] [_____] included.

Specifier Note: Refer to Hager Companies product catalog for product finish designations. BHMA finish designations are available on the Hager Companies website.

- g. Finish: To ANSI/BHMA A156.18, BHMA [_____].
- h. Certification: [UL listed] [_____].
- i. [FHWS] [And] [FHMS].

Specifier Note: Select or delete following sentences to suit chosen hardware. Refer to Hager Companies product catalog for description of item number and specify to suit project. Hager Companies surface bolt item numbers are: 275D, 276D, 278D-6, 278D-8, 279D.

- j. Acceptable Material: Hager Companies surface bolt Item Number [_____].

Specifier Note: Repeat the following article when more than one type of flush bolt is required for project. Refer to Hager Companies door hardware catalog when selecting and specifying flush bolts.

6. Flush Bolt:

- a. Applicable Standard: ANSI/BHMA A156.16.
- b. [Slide] [Lever Extension] [Automatic] [Constant latching] [_____].
- c. Material: [Brass] [Extruded Brass] [_____].
- d. Face: [3/4 inch x 6 inches (19.1 x 152 mm)] [1 inch x 6 3/4 inches (25.4 x 172 mm)] [_____].
- e. Bolt Head: [1/2 inch (12.7 mm)] [Flattened round] [_____].
- f. Bolt Throw: [3/4 inch (19.1 mm)] [_____].
- g. Rod Backset: [3/4 inch (19.1 mm)] [_____].
- h. Guide: [1 inch x 2 inches (25.4 x 51 mm)] [_____].
- i. Strike: [7/8 inch x 1 3/4 inches (22.2 x 44 mm)] [15/16 inch x 2 1/4 inches (23.8 x 57 mm)] [_____].
- j. Screws: [No. 8 combination] [No. 8 x 3/4 inch (19.1 mm) tapping] [No. 6 FHWS] [_____].
- k. Face Plate: [1 inch x 6 3/4 inches (25.4 x 172 mm)] [1 inch x 8 1/2 inches (25.4 x 216 mm)] [_____] [2 bolts per set] [_____].
- l. Rod Length (Center of Face to Corner of Door): [12 inches (305 mm)] [_____].
- m. Certification: [UL listed] [B, C, D, E, Label UL listing] [A label UL listing] [_____].

Specifier Note: Refer to Hager Companies product catalog for product finish designations.

- n. Finish: To ANSI/BHMA A156.18, BHMA [_____].

Specifier Note: Select or delete following sentences to suit chosen hardware. Refer to Hager Companies product catalog for description of item number and specify to suit project. Hager Companies flush bolt item numbers are: 281D, 282D, 283D, 291D, 292D.

- o. Acceptable Material: Hager Companies surface bolt Item Number [_____].

Specifier Note: Repeat the following article when more than one type of dustproof strike is required for project. Refer to Hager Companies door hardware catalog when selecting and specifying dustproof strikes.

7. Dustproof Strike:

- a. Applicable Standard: ANSI/BHMA A156.16.
- b. [Cast Brass] [_____].
- c. Face Plate: [1 3/8 inches x 2 7/8 inches (35 x 73 mm)] [_____].
- d. Barrel: [1 inch (25.4 mm) diameter x 2 3/16 inch (56 mm) depth] [_____].
- e. Screws and Anchors: [No.8 x 1 inch (25.4 mm)] [_____].

Specifier Note: Refer to Hager Companies product catalog for product finish designations. BHMA finish designations are available on the Hager Companies website.

- f. Finish: To ANSI/BHMA A156.18, BHMA [_____].

Specifier Note: Select or delete following sentences to suit chosen hardware. Refer to Hager Companies product catalog for description of item number.

- g. Acceptable Material: Hager Companies Item Number [280X] [_____].

Specifier Note: Repeat the following article when more than one type of pocket door privacy latch is required for project. Refer to Hager Companies door hardware catalog when selecting and specifying pocket door privacy latch.

8. Pocket Door Privacy Latch:

- a. Standard: ANSI/BHMA A156.14.
- b. Material: [Brass] [Cast brass].
- c. Door Size: [1 3/8 inches (35 mm)] [1 3/8 inches - 1 3/4 inches (35 - 44 mm)].

- d. Size: 2 3/4 inches x 2 1/2 inches (70 x 64 mm).
- e. Finger Pull: Extends 1 3/8 inches (35 mm)
- f. Strike Size: 1 inch x 2 1/4 inches (25.4 x 57 mm).

Specifier Note: Refer to Hager Companies product catalog for product finish designations. BHMA finish designations are available on the Hager Companies website.

- g. Finish: To ANSI/BHMA A156.18, BHMA [_____].

Specifier Note: Select or delete following sentences to suit chosen hardware. Refer to Hager Companies product catalog for description of item number.

- h. Acceptable Material: Hager Companies Item Number [330M] [330L] [330D].

Specifier Note: Edit Paragraph below to suit project requirements. If substitutions are permitted, edit text below. Add text to refer to Division 01 Project Requirements (Product Substitutions Procedures) Section.

2.02 PRODUCT SUBSTITUTIONS

- A. Substitutions: No substitutions permitted.

PART 3 EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

Specifier Note: Article below is an addition to the CSI *SectionFormat* and a supplement to MANU-SPEC. Revise article below to suit project requirements and specifier's practice.

- A. Compliance: Comply with manufacturer's written data, including product technical bulletins, product catalog installation instructions, product carton installation instructions and Hager SPEC-DATA sheets.

3.02 EXAMINATION

- A. Site Verification of Conditions:
 1. Verify that substrate conditions are acceptable for product installation in accordance with manufacturer's instructions.
 2. Verify that doors and frames have been prepared to receive hardware items in accordance with BHMA A115.
 3. Clean surfaces thoroughly prior to installation.
 4. Prepare surfaces using methods recommended by manufacturer for achieving best result for substrate under project conditions.

3.03 INSTALLATION

- A. Assembly: Install in accordance with manufacturer's instructions.

3.04 ADJUSTING

- A. Adjust locking components for optimum, smooth operating condition.
- B. Lubricate where directed by manufacturer.

3.05 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch up, repair or replace damaged products before Substantial Completion.

3.06 FIELD QUALITY CONTROL

- A. Site Tests, Inspection: Inspect completed assembly for proper locknut screw-in depth, after installation and prior to final acceptance. Report component damage to [Supplier] [_____].

3.07 COMPLETION & CLEANUP

- A. Proceed in accordance with Section [01 74 00 - Cleaning and Waste Management] [_____].
- B. Upon completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

END OF SECTION