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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 special function hinges. 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. Spring Hinges:
  - a. Full mortise.
  - b. Half surface.
2. Anchor hinges.
3. Pivots:
  - a. Reinforcing pivots.
  - b. Ball and thrust.
  - c. Recontreur.
  - d. Camtrol.

Specifier Note: Revise paragraph below to suit project requirements. Add section numbers and titles per 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] [\_\_\_\_\_].

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/Builders Hardware Manufacturers Association (ANSI/BHMA):
  - 1. ANSI/BHMA A156.1 Butts & Hinges.
  - 2. ANSI/BHMA A156.18 Materials & Finishes.

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:

Specifier Note: Describe specific types and quantities of samples required to determine style, finish or other characteristics.

- 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 in the work.
- D. Templates: Submit templates detailing installation procedures, including layout, dimensions and placement of hardware.
- E. 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 opening 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: Environment: 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 HINGES

- 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](mailto:webmaster@hagerco.com); website: [www.hagerco.com](http://www.hagerco.com).
- B. Spring Hinges:

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

1. Full Mortise:
  - a. Applicable Standard: ANSI/BHMA A156.1.
  - b. [Single acting] [Reverse action, single acting] [Spring hinges only] [Combination spring hinges and ball bearing hinges] [\_\_\_\_\_].
  - c. Material: [Steel] [Stainless steel] [\_\_\_\_\_].
  - d. Listing: [UL] [None] [\_\_\_\_\_].
  - e. Corners: [Square corners] [1/4 inch (6.4 mm) radius] [5/8 inch (15.9 mm) radius] [Square corner spring hinge set] [\_\_\_\_\_].

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.

- f. Finish: To ANSI/BHMA A156.18, BHMA [\_\_\_\_\_], [\_\_\_\_\_].
- g. Hinge Size: [\_\_\_\_\_ inches (\_\_\_\_\_) mm] x [\_\_\_\_\_ inches (\_\_\_\_\_) mm].
- h. Screws: [\_\_\_\_\_].

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 full mortise spring hinge numbers are: single acting 1150, 1250, 1252 and 1256 - square corner; 1251 - 1/4 inch (6.4 mm) radius corners; 1252 - 5/8 inch (15.9 mm) radius corners; single acting 1257 - square corner; 1258 - 1/4 inch (6.4 mm) radius; 1259 - 5/8 inch (15.9 mm) radius corners.

- i. Acceptable Material: Hager Companies full mortise spring hinges Item Number [\_\_\_\_\_].

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

- 2. Half Surface:
  - a. Applicable Standard: ANSI/BHMA A156.1.
  - b. Single acting, [Spring hinges only] [Combination spring hinges and ball bearing hinges].
  - c. Material: Steel.
  - d. Listing: UL.

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.

- e. Finish: To ANSI/BHMA A156.18, BHMA [\_\_\_\_\_], [\_\_\_\_\_].
- f. Hinge Size: [\_\_\_\_\_ inches (\_\_\_\_\_) mm] x [\_\_\_\_\_ inches (\_\_\_\_\_) mm].
- g. Screws: [\_\_\_\_\_].

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.

- h. Acceptable Material: Hager Companies full mortise spring hinges Item Number 1253.

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

- C. Anchor Hinges:
  - 1. Applicable Standard: ANSI/BHMA A156.1.
  - 2. Anchor hinges for [Standard] [{Square} {Beveled} edge doors] [\_\_\_\_\_].
  - 3. Knuckle: [Three] [Five] [\_\_\_\_\_].
  - 4. Bearings: [Concealed] [Ball] [\_\_\_\_\_].
  - 5. Weight: Standard.
  - 6. Material: [Steel] [Brass] [Stainless steel] [\_\_\_\_\_].
  - 7. Pin and Plug: [Non-rising, removable, concealed {Steel} {Brass} {Stainless steel} pin] [Non-rising removable {Concealed} {Steel} {Brass} {Stainless steel} pin head {And plug}] [\_\_\_\_\_].
  - 8. Leaf: [One anchor leaf (frame)] [Two anchor leaves, {15} {18} screw holes] [\_\_\_\_\_].
  - 9. Hand: [\_\_\_\_\_].

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.

- 10. Finish: To ANSI/BHMA A156.18, BHMA [\_\_\_\_\_], [\_\_\_\_\_].
- 11. Hinge Size: [\_\_\_\_\_ inches (\_\_\_\_\_) mm] x [\_\_\_\_\_ inches (\_\_\_\_\_) mm].
- 12. Screws: [\_\_\_\_\_].

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 anchor hinge numbers are: three-knuckle hinges AB7505, AB8505, three-knuckle for square edge doors, AB7506, AB8506, AB8508, AB7507, AB8507; three-knuckle for beveled edge doors AB7508, AB8508,

AB7509, AB8509; five-knuckle hinges BB1160, BB1190; for square edge doors BB1162, BB1192, BB1165, BB1195; five-knuckle hinges for beveled doors BB1166, BB1196, BB1167, BB1197.

13. Acceptable Material: Hager Companies anchor hinges Item Number [\_\_\_\_\_].

D. Pivots:

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

1. Reinforcing Pivots:

- a. Applicable Standard: ANSI/BHMA A156.1.
- b. Full Surface: Surface mounted.
- c. Hand: [\_\_\_\_\_].
- d. Material: [Steel] [Brass] [Stainless steel] [\_\_\_\_\_].

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.

- e. Finish: To ANSI/BHMA A156.18, BHMA [\_\_\_\_\_], [\_\_\_\_\_].
- f. Hinge Size: [\_\_\_\_\_ inches (\_\_\_\_\_) mm] × [\_\_\_\_\_ inches (\_\_\_\_\_) mm].
- g. Screws: [\_\_\_\_\_].

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 reinforcing pivot numbers are: 251, 252, 253, 254.

h. Acceptable Material: Hager Companies reinforcing pivot Item Number [\_\_\_\_\_].

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

2. Ball and Thrust Bearing Pivot:

- a. Applicable Standard: ANSI/BHMA A156.1.
- b. Knuckles: 2.
- c. Hand: [\_\_\_\_\_].
- d. Material: [Steel] [Brass] [Stainless steel] [\_\_\_\_\_].

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.

- e. Finish: To ANSI/BHMA A156.18, BHMA [\_\_\_\_\_], [\_\_\_\_\_].
- f. Screws: [\_\_\_\_\_].

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 ball and thrust bearing pivot numbers are: 495 top, 496 intermediate, 497 bottom.

g. Acceptable Material: Hager Companies ball and thrust bearing pivot Item Number [\_\_\_\_\_].

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

3. Reconteur Single Acting Pivot:

- a. Applicable Standard: ANSI/BHMA A156.1.

- b. Rack and pinion; opens door 105 degrees maximum.
- c. Hand: Non-handed.
- d. Material: [Steel] [Brass] [Stainless steel] [\_\_\_\_\_].

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.

- e. Finish: To ANSI/BHMA A156.18, BHMA [\_\_\_\_\_], [\_\_\_\_\_].
- f. Screws: [\_\_\_\_\_].

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.

- g. Acceptable Material: Hager Companies reconteur single acting pivot Item Number [500] [550].

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

- 4. Camtrol:
  - a. Applicable Standard: ANSI/BHMA A156.1.
  - b. Hospital set rescue hardware.
  - c. Material: [Steel] [Brass] [Stainless steel] [\_\_\_\_\_].

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.

- d. Finish: To ANSI/BHMA A156.18, BHMA [\_\_\_\_\_], [\_\_\_\_\_].
- e. Screws: [\_\_\_\_\_].

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 camtrol double acting pivot numbers are: 510 head and floor pivots; 600 head and floor pivots with door release; 610 door release.

- f. Acceptable Material: Hager Companies camtrol double acting pivot Item Number [\_\_\_\_\_].

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 Companies SPEC-DATA sheets for hinges.
- B. Furnish metal door and frame manufacturers with complete instructions and templates for preparation of work to receive hinges.
  - 1. Furnish manufacturer's instructions for proper installation of each hinge component.

### 3.02 EXAMINATION

- A. Site Verification of Conditions: Verify that substrate conditions are acceptable for product installation in accordance with manufacturer's instructions.

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**3.03 INSTALLATION**

Specifier Note: Note that there are special hinge mounting height requirements for elementary schools and accessible doors.

Specifier Note: Check frame types for hinge mounting locations. Some frame manufacturers have predetermined mounting heights for hinges.

- A. Install hinges to standard hardware location dimensions in accordance with Hager Companies Standard Hardware Locations Chart.
- B. Use only manufacturer's supplied fasteners. Failure to comply may void manufacturer's warranties and applicable licensed labels. Use of "quick" type fasteners, unless specifically supplied by manufacturer, is unacceptable.

**3.04 ADJUSTING**

- A. Adjust door hinges for optimum, smooth operating condition.
- B. Lubricate hinges where directed by manufacturer.
- C. Adjust door hinges to provide tight fit at contact points with frames.

**3.05 CLEANUP**

- A. Proceed in accordance with Section [01 74 00 - Cleaning and Waste Management] [\_\_\_\_\_].
- B. Clean hinges with damp rag and approved nonabrasive cleaner, and polish hinges in accordance with manufacturer's instructions.
- C. Remove protective material from hinges where present.
- D. Upon completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

**END OF SECTION**