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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 continuous stainless steel 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. Continuous Stainless Steel Hinges:
 - a. Fully Concealed Hinges.
 - b. Half Mortise Hinges.
 - c. Full Surface Hinges.
 - d. Half Surface Hinges.

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] [_____].
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/Builders Hardware Manufacturers Association (ANSI/BHMA):
 - 1. ANSI/BHMA A156.18 Materials & Finishes.
 - 2. ANSI/BHMA A156.26 Continuous Hinges.

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 into 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.

Specifier Note: Paragraph below should list obligations for compliance with specific code requirements particular to this section. General statements to comply with a particular code are typically addressed in Conditions of the Contract and Division 01 Regulatory Requirements Section. Repetitive statements should be avoided.

- B. Preinstallation Meetings: Conduct preinstallation meeting to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements. Comply with Division 01 Project Management and Coordination (Project Meetings).

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).

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; website: www.hagerco.com.
- B. Continuous Stainless Steel Hinges:

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

1. Fully Concealed Hinges:
 - a. Applicable Standard: ANSI/BHMA A156.26.
 - b. Bearings: Nylon 6/6.
 - c. Weight: Heavy duty.
 - d. Material: 14 gauge (2.0 mm thick) Type 304 stainless steel.

Specifier Note: Refer to Hager Companies product catalog for special features and their application. Select and specify to suit project requirements.

- e. Special Features: [1/4 inch (6.4 mm) diameter stainless steel pin] [Door edge protection lip] [Swing clear type hinge].

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 [____], [Brushed to a satin finish] [Powder coated finishes {Color}].

Specifier Note: Fire ratings up to 3 hours are available. Refer to Hager Companies product catalog for more information.

- g. Listing: UL, fire rating [____] hours.
h. Door Reinforcement: None required to 200 lb (90.72 kg); use 16 gauge (1.6 mm thick) channel at higher weight.
i. Frame Reinforcement: None required to 200 lb (90.72 kg); use 16 gauge (1.6 mm thick) channel at higher weight.

Specifier Note: Continuous Hinges are available in standard lengths of 79 inches (2007 mm), 83 inches (2108 mm), 85 inches (59 mm), 95 inches (2413 mm) and 119 inches (3023 mm) for standard door heights or custom lengths for odd sized openings.

- j. Hinge Size: [____] inches (____) mm] long.
k. Screws: Universal screw package.

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 fully concealed continuous stainless steel hinge numbers are: 790-900, 790-905, 790-907, 790-915; swing clear 790-911, 790-926.

- l. Acceptable Material: Hager Companies fully concealed continuous stainless steel hinge Item Number [____].

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

2. Half Mortise Hinges:
a. Applicable Standard: ANSI/BHMA A156.26.
b. Bearings: Nylon 6/6.
c. Weight: Heavy duty.
d. Material: 14 gauge (2.0 mm thick) Type 304 stainless steel.

Specifier Note: Refer to Hager Companies product catalog for special features and their application. Select and specify to suit project requirements.

- e. Special Features: 1/4 inch (6.4 mm) diameter stainless steel pin.

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 [____], [Brushed to a satin finish] [Powder coated finishes {Color}].

Specifier Note: Fire ratings up to 3 hours on metal doors and 90 minutes on wood composite doors are available. Refer to Hager Companies product catalog for more information.

- g. Listing: UL, fire rating [____] hours.
h. Door Reinforcement: None required.
i. Frame Reinforcement: None required to 200 lb (90.72 kg); use 16 gauge (1.6 mm thick) channel at higher weight.

Specifier Note: Continuous Hinges are available in standard lengths of 79 inches (2007 mm), 83 inches (2108 mm), 85 inches (59 mm), 95 inches (2413 mm) and 119 inches (3023 mm) for standard door heights or custom lengths for odd sized openings.

- j. Hinge Size: [____] inches (____) mm] long.
k. Screws: Universal screw package.

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.

- l. Acceptable Material: Hager Companies half mortise continuous stainless steel hinge Item Number 790-904.

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

3. Full Surface Swing Clear Hinges:
 - a. Applicable Standard: ANSI/BHMA A156.26.
 - b. Bearings: Nylon 6/6.
 - c. Weight: Heavy duty.
 - d. Material: 14 gauge (2.0 mm thick) Type 304 stainless steel.

Specifier Note: Refer to Hager Companies product catalog for special features and their application. Select and specify to suit project requirements.

- e. Special Features: [1/4 inch (6.4 mm) diameter stainless steel pin] [Security molding].

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 [____], [Brushed to a satin finish] [Powder coated finishes {Color}].

Specifier Note: Fire ratings up to 3 hours on metal doors and 90 minutes on wood composite doors are available. Refer to Hager Companies product catalog for more information.

- g. Listing: UL, fire rating [____] hours.
- h. Door Reinforcement: None required to 200 lb (90.72 kg); use 16 gauge (1.6 mm thick) channel at higher weight.
- i. Frame Reinforcement: None required to 200 lb (90.72 kg); use 16 gauge (1.6 mm thick) channel at higher weight.

Specifier Note: Continuous Hinges are available in standard lengths of 79 inches (2007 mm), 83 inches (2108 mm), 85 inches (59 mm), 95 inches (2413 mm) and 119 inches (3023 mm) for standard door heights or custom lengths for odd-sized openings.

- j. Hinge Size: [____] inches (____) mm] long.
- k. Screws: [Universal screw package] [Sex-bolts] [____].

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.

- l. Acceptable Material: Hager Companies full surface continuous stainless steel hinge Item Number 790-909.

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

4. Half Surface Hinges:
 - a. Applicable Standard: ANSI/BHMA A156.26.
 - b. Bearings: Nylon 6/6.
 - c. Weight: Heavy duty.
 - d. Material: 14 gauge (2.0 mm thick) Type 304 stainless steel.

Specifier Note: Refer to Hager Companies product catalog for special features and their application. Select and specify to suit project requirements.

- e. Special Features: [1/4 inch (6.4 mm) diameter stainless steel pin] [Security molding] [Swing clear type hinge].

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 [____], [Brushed to a satin finish] [Powder coated finishes {Color}].

Specifier Note: Fire ratings up to 3 hours on metal doors and 90 minutes on wood composite doors are available. Refer to Hager Companies product catalog for more information.

- g. Listing: UL, fire rating [____] hours.
- h. Door Reinforcement: None required to 200 lb (90.72 kg); use 16 gauge (1.6 mm thick) channel at higher weight.
- i. Frame Reinforcement: [None required] [None required to 200 lb (90.72 kg); use 16 gauge (1.6 mm thick) channel at higher weight].

Specifier Note: Continuous Hinges are available in standard lengths of 79 inches (2007 mm), 83 inches (2108 mm), 85 inches (59 mm), 95 inches (2413 mm) and 119 inches (3023 mm) for standard door heights or custom lengths for odd-sized openings.

- j. Hinge Size: [____] inches (____) mm] long.
- k. Screws: [Universal screw package] [Sex-bolts] [____].

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.

- l. Acceptable Material: Hager Companies half surface continuous stainless steel hinge Item Number [790-903] [Swing clear 790-935].

5. Accessories:

- a. Decorator Tips: Conversion tips and pins for architectural grade sizes: [Hospital tips] [____].
- b. Moldings: Purpose made to cover exposed fastener heads on half-surface, full-surface and half-mortise model.

Specifier Note: Refer to individual Hager Companies catalog sheets for additional information.

- c. Door Edges: Material [Aluminum] [Stainless Steel], finish BHMA [____], thickness 0.045 inches - 0.050 inches (1.14 - 1.27 mm), length 36 inches - 42 inches (914 - 1067 mm).
- d. Corner Guard: Material [Aluminum] [Stainless steel], finish BHMA [____], thickness 0.050 inches (1.27 mm), size 3 inches x 3 inches x 40 inches (76 x 76 x 1016 mm).

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 their 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.

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.
- C. Install decorator tips, anchoring fasteners and securing anchors where specified and as required in accordance with manufacturer's instructions.

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